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Timely Profit Pointers with Potatoes

How to Get the Extra Bushels Needed to Pay Higher Cost of Production

By DANIEL DEAN

Tioga County, New York

The cost of growing potatoes will be very heavy this year because of the high prices of seed, fertilizers, all machinery and all labor. It may take many bushels per acre to pay the increase in these expenses over those of other seasons. More will be needed to pay the usual expenses. It will take an average crop and much better than average prices to pay the farmer for the cash he has paid out and for the cash he might have had if he had sold his seed potatoes for money and had worked out with his team. If he has any net profit from potato growing it must come from the bushels grown above the cost of production.

In the later months of the crop's life, several things may happen to it which prevent it from doing its best and all chance of any profit vanishes. Still worse, there often goes with the profit part of the crop the amount needed to pay necessary expenses and the farmer must pay the loss out of his pocket.

Any bad injury to the roots or tops of the potato plant may cut down the yield badly. All growers are familiar with the losses caused by the common striped potato bug eating the foliage. It is a hard fact which growers seldom realize, that they themselves often do far more damage to the growing crop by careless cultivation than is caused by the bugs. Stirring the soil to kill weeds and to form a surface mulch to prevent evaporation greatly increases the yield if done before planting or while the plants are small. But the same tool which kills a weed can do severe damage to the more delicate potato plants. The weed grows in the field because it is tough and hardy, the survivor of many kinds of weeds which have grown in past years. The potato is only in the field by the favor of man. It is a plant so tender that it would never be found in a state of nature.

While the present potato is descended from wild ancestors, it has been so changed by the hand of man that it has lost all the hardiness it ever possessed. Now it is even weaker than the other crops grown on the farm. While the potato can stand considerable rough treatment in its early life, it is because it is then still attached to the parent seed piece and drawing its nourishment mainly from it. When later it must depend on its own resources, its root system is far weaker than those of other farm crops and less able to support it when injured. We live in a country which has a climate hot enough to be adapted to the growth of corn. The potato does its best in northern Europe and in those parts of northeastern United States and of Canada nearest the cold ocean currents from the Arctic Ocean. In nearly every summer over most of the United States the heat rises to a point where the growing potato plant begins to suffer from its effects. Southern growers dodge this time to a great extent by growing potatoes in the cooler months of winter and spring. There is naturally a critical period in the life of the potato at the time when the plant is blossoming and setting the tubers which make its crop. Each of these processes is quite exhausting to the crop.

Protect the Roots

Now if the grower "lays by" the crop from further cultivation by going thru the row with one of the various forms of ridging tools in use, he is certain to cut more or less of the roots. The extent of the injury to the plants and the final reduction in yield depends on the weather and on the amount of roots cut. Very often the crop gets a set-back from which it never recovers. The leaves are constantly giving off large amounts of water which can only come thru the roots from the soil moisture. If the roots are cut, the plant keeps giving off water just the same. When the summer is wet and cool, the plants may not suffer badly because the remaining roots may get water enough. But if the weather is dry the roots are not able to furnish all that the leaves want. When that happens the leaves give off part of the water in the structure of the plant. It begins to wilt, first at the tips and edges of the leaves, which causes the trouble to be called tip-burn. This trouble is often taken for late blight. Its effect is to cut down the yield. I have seen a neighbor's nine-acre field of potatoes which was all ridged except one-half acre. The yield where not ridged was exactly double that of the adjoining ridged rows, being 100 bushels per acre where ridged and 200 where left alone.

Cultivation must stop before the plant roots begin to fill the upper soil. If the grower will watch carefully he will notice that all at once the roots which have previously seemed to be mainly going down have suddenly seemed to be developing mainly in the surface soil, spreading across from row to row, with long vertical roots hanging down from these horizontal roots to more completely fill the soil. When these roots start to fill the rows it is a sure sign to the grower that it is time to stop cultivation because in most years it will do more harm than good. The weeds should all be killed by this time and careful scientific experiments in the last few years have shown that little water evaporates from the soil after the plant roots get a good spread.

Insect Pests

Potato Bugs.—Two insects are almost always present and ready to cause loss unless kept in check. The striped potato bug is easy to kill if handled rightly. If the field is closely watched and poison applied just as soon as the tiny bugs have hatched from the eggs, they can not move around much to find spots free from poison. Being so small, a little poison is fatal. When they have had time to grow it is a common saying with old farmers that "Big bugs only get fat on poison". The best poison to use is Paris green if bordeaux mixture is also applied. That is because Paris green acts quicker and more sure than other poisons, is cheaper, sticks better with bordeaux and is perfectly safe when used with bordeaux, because the lime in the combination prevents the leaf burning which is liable to occur when Paris green is applied alone with water. Where bordeaux is not used, arsenate of lead should be the poison used, as it is safer than Paris green with water. With bordeaux I only use one-half pound of Paris green per acre, but several times that amount of arsenate of lead is needed. When the first brood of bugs is killed as soon as

THE WELL-EARNED DAY OFF AFTER SPRING WORK IS DONE.

hatched, there is seldom much trouble with later broods.

Flea Beetle.—The other common insect is the common little black flea-beetle. This does much more damage than is generally known. Unlike the potato bug it does not eat up entire leaves but, instead, makes a large number of small holes, the combined area of which is large enough to cause serious damage. No kind of poison will kill these pests. The only remedy is to spray with bordeaux. Sprayed plants are damaged much less than those unsprayed. The cheapest way to fight these insects is to spray thoroly with bordeaux mixture in combination with Paris green. The bordeaux has other benefits as well. Every year there is tip-burn which is largely reduced by spraying.

Plant Diseases

Late Blight.—The dreaded late blight and rot disease does not come every year but may be looked for in one or two years out of every four in the northeastern United States. A long period of wet weather in July, August or September is certain to be followed by an outbreak, for it is a wet weather disease. The disease is soon killed by a few days of sunshine. Prevention is practically the only remedy. It does little good to spray after the disease has had time to get inside the plants where the spray can not reach it. The object of spraying is to distribute a thin film of the bordeaux over the surface of every leaf. As soon as it dries, the copper is left in tiny particles all over the leaf if the spraying has been well done. A very small amount of the copper of the bordeaux mixture in solution will instantly kill a blight germ, and the dew and rain dissolve enough of it to perfectly protect every sprayed leaf.

The blight germs come to the plants thru the air from a few plants which have had the disease carried over winter in the seed, or from a neighbor's field. If every leaf could be sprayed all the time there would be no blight. Of course the potato plant is constantly growing and new leaves form every day. If these are left unsprayed the blight may come, produce a new crop of millions of germs, and the germs which fall on the ground will penetrate the soil to the potatoes and rot them.

Thus blight causes loss in two ways: By rot and by the reduced yield caused by the loss of the tops. Practically, then, the grower must spray at intervals of one to two weeks to keep his potato field covered with its armor of copper, and especially he must spray whenever possible just before rains, because that is the time when blight spreads. Many fear to spray before rains for fear the bordeaux will be washed off. There is no danger of that if it can dry for an hour. Bordeaux is itself so sticky that not even rosin will make it stick better. Personally, I wish that something could be found to take it off my hands after working around the machine in spraying. Soap and water and a brush have but little effect in getting it off. It is certain that sprayed plants live longer in hot and dry seasons and consequently give larger yields, altho no one can explain exactly why. I am satisfied to know that spraying makes money in wet years by preventing blight and rot, and in dry years by increasing the yield.

Spray Outfits

Many kinds of potato sprayers are in use. As spraying machines are little more than a dozen years old it is natural to expect that none are perfect yet and that some are even of little value. The best machine to buy is one that is well built and designed by makers familiar with the difficult requirements of potato spraying. As the tops get large late in the season, the nozzle arrangement must be capable of careful adjustment to get the best results. One nozzle per row will cover the tops well while small, but later two are better, pointing in, diagonally, from each side. With heavy pressure this does perfect work, far better than such makeshifts as going twice in a row, or using several nozzles down between the plants.

The pump itself must be made of brass or it will quickly corrode under the chemical action of bordeaux. The piping should be of brass unless too expensive. Triple cylinder pumps are very smooth working and easy on the team. Rake teeth can be easily attached to a cross bar at the front of the machine to drag the tops away from in front of the wheels when spraying, one tooth on each side of the wheel. The teeth are raised at the ends of the rows and for the road.

The pump of the future sprayers will be large and strong enough to give a pressure of at least 200 pounds or more while delivering enough spray material to thoroly coat every leaf on every plant. Such spraying pays far better than the poor work done by small and cheap machines. In my own experience in 1915 I cleared nearly $200 per acre by thoro spraying when many poorer sprayers and careless drivers either entirely failed to prevent the great loss by blight or else at best had gains less than half as large as mine. We do not know when late blight attacks will come, but when it does come as severe as the attacks of 1912 and 1915 only the best spraying will prevent heavy losses. And such spraying will turn these losses into large profits.

Alfalfa in a Hill County

The farmers of Broome County, N. Y., have shown an interest in alfalfa culture for several years past. Not a few have tried to woo this shy maiden without success. The largest grower of alfalfa in the county began to cultivate it on land that had been well limed with the waste lime from the sugar beet factory adjoining his farm. He succeeded without realizing why, but when he tried to grow the crop on a field that had not been limed his eyes were opened to the fundamental need of alfalfa for lime even on his river valley farm. Since then, he applies lime for a successful start with the crop, and additional doses of lime as top-dressings while the alfalfa meadow is producing. Last season his meadows plainly showed benefit from the dressing of ground limestone applied before spring growth began.

GOOD CROP OF ALFALFA ON GRAVELLY SOIL TOP-DRESSED WITH POULTRY DROPPINGS.

About twelve years ago a farmer who reads and thinks a great deal, decided to give alfalfa a trial on his hill farm. His first effort ended in failure. He paused long enough to study some more about the crop and then tried again. He was converted to the use of lime for his land, and he soon made the discovery that to succeed on his soils alfalfa must have about four tons per acre of fresh burned lime, water slaked. He discovered that his soils were quite deficient in lime, and that the alfalfa needed an abundance of it. His first successful alfalfa plot was growing the tenth cutting since it was sown when I first saw it. The first cutting for that season had been removed and the drouth had shortened the second growth. The stand of plants was a healthy one. Inoculation had been supplied thru soil from a successful field at a distance, and in its turn this plot served as a source of inoculated soil for this farm and the neighboring ones. His later sowings have not succeeded so well owing to lack of hardiness in the variety sown, or due to water-logged spots in his fields where the hard-pan subsoil interferes with the drainage.

On two of the hill farms in that vicinity experimental alfalfa plots were established in 1914 under the direction of the State Agricultural Experiment Station. At the outset, each of the plots received a dressing of ground limestone at the rate of four tons per acre. The seed sown was of a hardy sort and the crop started well. Last year the first cutting on each plot was very good. The second one showed signs of paleness and lack of vigor. I tested the soil from one of these plots and found that it would require another ton of ground limestone to make it safely alkaline and suitable for alfalfa. Nothing is more surprising to some farmers than the lime requirement of alfalfa on upland soils.

In the summer of 1913 I found an excellent small alfalfa plot on well drained soil laid down in the Chenango valley by glaciation and stream work. The soil contained many small cobblestones but little limestone. The best spot in the field was one where poultry manure had been scattered the previous year. The growth was rank and showed that the plant had all the nitrogen it needed. The second cutting was shortened by drouth. Next year the plot was plowed up and planted to corn which made a famous crop on the remains of the alfalfa.

On one of my scouting trips I discovered a student of alfalfa who was about ready to make his second attempt on the same ground. He wanted advice about how to succeed with the crop, after having made one failure. ''How much lime did you use the first time?'' I inquired. ''About a ton probably,'' was the reply. ''Then you had better apply more,'' I said. He did so, and sowed the seed in August to avoid the early weed crop. Next spring he was a bit discouraged. The hens had pastured on one end of his acre, and high water had reached a corner of the other end, but to my way of thinking, the middle of the plot looked healthy and the plants numerous enough for a successful stand. ''Don't plow it up,'' I pleaded. ''Wait and see what you get. It takes more than a year for a successful alfalfa plot to get established under your conditions.'' He refrained from using the plow, and sure enough those surviving alfalfa plants thrived and grew stronger as the season lengthened.

Next June we had an auto party out to see the best alfalfa plots within a few miles from town. We made a stop at this alfalfa plot which was then a good demonstration of the principle of doing the best you know how and sticking to it, with alfalfa. The first cutting was nearly ready to harvest and the yield excellent. Now the owner is planning to devote several acres of similar river valley land to alfalfa after adequate liming. With good seed, inoculation, and liberal use of lime he will be successful in his alfalfa culture, I believe.

On my own small farm I sowed three-tenths of an acre to alfalfa on a well-prepared seedbed last June. As I did not know how sour the land was I guessed that two tons of pulverized limestone per acre would be enough to start it. That was before I got the soil tester. When I did get it, I found that the alfalfa yet lacked enough lime to make it neutral. Both alfalfa and weeds grew well until cut in August. The autumn growth was not like that which had plenty of lime behind it, so before winter set in I gave the plot another ton per acre of the limestone and expect to continue these applications as often as necessary in the future.—M.

THE SIZE OF SEED POTATOES

Under ordinary conditions I would use potatoes of medium size for seed. If I had to go to either extreme, and could have my choice, I would take large ones rather than small ones. But when the price of potatoes of even moderate size is as high as it is now I would feel justified in planting at least a part of the ground for this crop with the less expensive ones which are too small for table use.

One spring in my boyhood days a neighbor, who was a shoemaker by trade but who owned a little patch of land, told my father that he had some potatoes, of a very fine variety, which were too small to eat but would do to plant and he would like to exchange a few bushels of them for some larger ones. The exchange was made. My father found that the shoemaker had spoken literally when he said that his potatoes were small. In size they would have compared pretty well with grapes. But they were smooth and sound and were used for planting. A fair yield was obtained.—Elliott.

How to Grow Hay Successfully

Soil Conditions and Plant Food Prime Requisites

By E. R. MINNS

Broome County, New York

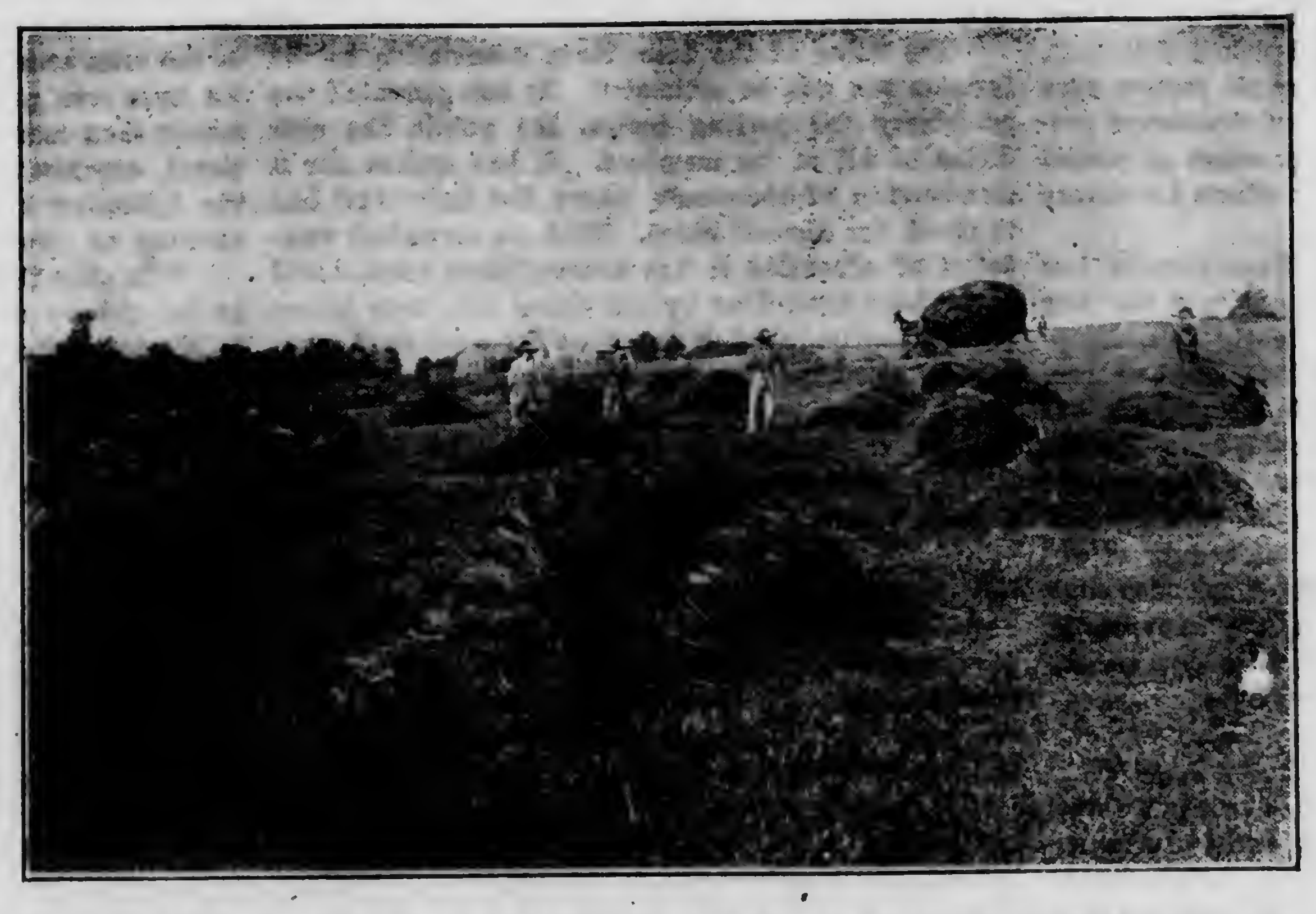
In the dairy regions of New York the hay crop is the most important one grown on the farms. If you are a dairy farmer and you lose your hay crop thru some calamity, you do the best you can to replace it with corn, millet, straw or other coarse fodder, but the thing you are most certain to do is to buy some hay from some farmer who has a surplus. If the hay crop is abundant, you keep more stock during the winter and the prices on dairy stock go up. If there is a shortage of hay, you follow the crowd and offer to sell your surplus stock, and the prices usually go down a little. Cost accounts have shown that hay is the crop that can be grown at the least cost per acre and the largest net profit on most of our farms.

If hay is so important to feed cows, and production so profitable, why are acres and acres of land producing such ridiculously low yields? Simply because the margin between the cost of growing and the value of a fair crop is so liberal that production can be run down to less than average yields without incurring a loss. There are many square miles of meadows in this region that produce these low yields. Can the yield be increased to two, three, or even four tons per acre at a profit? There are dozens of farmers who will tell you that it can. I want to illustrate how it has been done.

EFFECT OF FERTILIZERS ON GOOD VALLEY MEADOWS. FERTILIZED YIELD, 2.4 TONS PER ACRE; UNFERTILIZED, 1.3 TONS.

We have in this region a soil that is composed largely of weathered shale and sandstone rock. Its origin makes it poor in lime and so much of it is sour. A few years ago the liberal use of lime was begun on one large farm which dominated the hill top which gives the farm a name. Last summer another hilltop farmer looked out over the valley and noted that the D—— Hill farm could be distinguished from all the other farms in the panoramic view, simply by the greener color of its meadows. The use of lime, followed by manure from the large herds kept on the forage grown and feeds purchased, has transformed this farm from a problem into a profit maker. Its meadows now roll up hay crops consisting of mixed clover and timothy like the one shown in the illustration. Lime alone makes a large improvement in the yield of hay on this hill soil. Lime followed by dressing of stable manure seems to work wonders as the owner of this field will testify.

Said a prominent farmer in this county a few weeks ago, ''The farmers of our county grew 5000 tons of extra hay last year as a result of the use of lime''. Last year these farmers used 3900 tons of ground limestone as well as quite a few cars of burned and hydrated lime. When all the hay land in the county has had a liming, there is going to be such a renaissance in clover growing as has never happened before. Last year's clover fields were just a foretaste of it.



SPLENDID CROP OF MIXED HAY FOLLOWS USE OF LIME AND MANURE ON POOR HILL LAND.

When a farmer has a good meadow established with the aid of lime and manure, must he follow a short rotation, or can he maintain yields for a year or two longer and thus lengthen the rotation? This is a pertinent question where the hay is in demand for sale at attractive prices—worth more to sell than to feed as it often is near the cities. The answer to this question is in the use of soluble chemical fertilizers as a spring top-dressing. On a fairly good meadow it is often possible to get $2 worth of hay for $1 invested in hay fertilizers. I can illustrate this by an example from my own experience. I had a chance to test ammonium sulphate on timothy sod which was in good condition for top-dressing. I believe in a complete fertilizer for hay but want it strong in soluble nitrogen. I made my complete fertilizer by mixing 200 pounds ammonium sulphate, 200 pounds acid phosphate, and 50 pounds muriate of potash together for an acre. The timothy showed its appreciation of this dose almost at once, in the darker green color and the heavier growth where it was applied. Of course, I left a check plot where no fertilizer was applied. When I weighed the results from fertilized and unfertilized sod, I had a yield of 1.3 tons of hay from the check plot, and the fertilized plot produced 2.4 tons of clean timothy hay. It had cost me half the value of the increased crop to apply the fertilizers.

Now the cost of these fertilizers has increased so that many farmers will doubtless buy none this year. We can't get muriate of potash at all so the complete fertilizer is out of the question. My alternative is a mixture of equal parts of acid phosphate and nitrate of soda, and these cost more than they did formerly. What is the hay farmer who wants to top-dress with chemical fertilizers going to do? My opinion is that he should not cease using the fertilizers but either decrease the amount of the application per acre or else withhold it from the acres which seem least likely to profit by its use. Success with this practice rests very largely in the ability of the grower to select the meadows that will pay for high priced feeding with fertilizers.

WATER SUPPLY SOLVED

We have in use an air power pump water system. We used a windmill outfit for about 28 years, but were not entirely satisfied with it because we had to use tank water. Four years ago this May we put in the air pump system and it has proved a great success. Our two sons (farmer boys) did the work of installing it, and it would be difficult to put a valuation on it for our use. The water comes direct from the well and is always fresh and good. We have about 12 spigots in and about the buildings and we have only to open a spigot and fresh water comes direct from the well. We also have a water heating outfit that gives us hot water as we want it. We have also an arrangement by which water can be thrown high in the air for use in case of fire. The complete system cost us about $300 and we have had very little trouble in keeping it in working order. We keep about 25 head of horses and cattle, and the water system provides all the water we need for them as well as the garden and home.—O. Milton Philips, Chester Co., Pa.

BETTER SOILS RESULT FROM SWEET CLOVER

Besides yielding a larger crop of hay than other legumes, sweet clover improves the condition of the soil and increases its fertility. For these reasons it may become a valuable acquisition on Ohio farms.

Observations made by the Ohio Experiment Station show that the main roots of this crop often extend nearly three feet below the surface, thus breaking up the soil and aiding in drainage, especially of heavy clay soils. These studies indicate that more of this crop than ordinary red clover lived thru the drouth of 1916.

Large amounts of organic matter may be added if sweet clover is plowed down even eight months after seeding. Because it is a leguminous crop, a store of nitrogen may also be added when it is given a place in the cropping system. It will give best service in the east as a soil improver. There are many soils and locations where this plant may cheaply convert rundown land into a profitable condition.

EXPERIENCE IN SUBSOIL BLASTING

Seeing so much in the agricultural papers about subsoiling with dynamite, I have decided to offer you my experience for publication.

I had a field, a portion of which would not grow corn. It was underlaid with a hardpan subsoil which caused the water to rise to the surface after every rain. Crops would drown out as fast as planted.

Hearing about subsoiling, I decided to try an experiment on this piece of ground. I made the bore holes three feet deep and spaced them about sixteen feet apart each way using a quarter of a pound of dynamite per hole.

The season following this blasting, I planted corn on the plot and secured a yield of eighty bushels per acre. As a result, I am a believer in subsoiling with dynamite under conditions that I have described. I trust this may be of interest to others having similar condition with which to contend.—Chas. B. Pickett.

At this time of the year, prices of fertilizer materials usually decline on account of the closing of the spring season, but this year there has been no decline; in fact, prices are higher for practically every material which enters into the manufacture of fertilizers.

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PATRIOTISM AND PEANUT POLITICS

It is never very far from the sublime to the ridiculous. In these days when the people are straining every nerve and making great sacrifices with the patriotic purpose of aiding their fellowman, and of making the world a better and safer place in which to live, the activities of the Pennsylvania legislature would be ludicrous if they did not indicate a pitiable condition. As it is, the sober, serious-minded people of the state are disgusted at the false pretenses which terminated in the fiasco of efforts at the adjournment last week.

For six months the people of the state, interested at first in the factional charges and counter-charges and the promises of all parties that the state would be cleaned up, have watched with growing disgust and resentment the petty bickerings of leaders and the blind following of their hand-picked followers. The promises so generously made by all parties have not been fulfilled. The exposures of rottenness promised did not take place, and the promises of reform have been followed by reactionary efforts heretofore unexcelled.

This is not the first time Pennsylvania has staged an exhibition of this kind, nor is it the first time voters have expressed, or silently felt, disappointment and disgust at the failure of their representatives to represent the whole people. It has occurred so often that voters should have learned their lesson, yet year after year they maintain their allegiance to leaders who are long on promises but short on fulfillment. Patriotism that counts in the real defence of home and native land includes high ideals and independent action in the exercise of the franchise. "We, the people", in a democratic-republic, generally get what we deserve.

* * *

CITY BOYS AS FARM HANDS

We do not know how many city boys are at work on farms this summer, or how satisfactory the experiment is to either the boys or the farmers. We have no doubt that many of the boys have the grit and good sense to adapt themselves to conditions of the farm and strive earnestly to make good. But we have heard some reports indicating failure in this respect. In one instance, a bunch of boys arrived in a neighborhood one day, stayed until the next afternoon, then got together and went back to the city. They complained that the work was too hard, the hours too long and there was no fun in it. The newspapers report that Major General Bell has called the Boy Scouts from the Eastern Shore, where they went to pick potatoes, because of mistreatment at the hands of the truckers. The farmers claim that the boys could make from $2.50 to $3 per day at the price paid them, yet the 1000 boys quit because of the alleged "mistreatment". Some boys recently quit after two or three days' work in New Jersey because they must get up in the morning and eat breakfast with other farm hands, and because there was no bathroom in the house. We do not know whether this was the character of "mistreatment" referred to or not.

We would not condemn all city boys on this account by any means, but we call attention to it for two reasons: First, because the average city-raised person has no real conception of what farm work is like, and because of this are not fitted to advise and direct on agricultural affairs. Second, it shows the folly of trying to largely increase farming operations by the aid of unskilled and unsympathetic help. They who believe that anybody can farm have another think coming, even as to the menial labor.

* * *

MILK PRICES

The July and August schedule of wholesale prices of milk in the Philadelphia market is announced on the following page. The basic price to farmers is seven cents per quart, F. O. B. Philadelphia. This price is a distinct victory for the dairy farmers' association. It is not a victory won by the force of numbers or by pressure of organization to extort unreasonable demands. The Inter-State Association has done its work without fuss or feathers. But in the last year it has developed a most effective educational campaign. It has directed the attention of dairy producers to the actual cost of producing milk. It has put this information before the consuming public. It has shown the city consumers the value of a permanent, well-ordered and efficiently managed source of clean, wholesome milk close at hand. It has shown the suicidal effects of a price that will not pay the cost of production.

In this campaign the association and its members have shown an honesty of purpose that is almost without precedent. In the Tri-State investigation the dairy farmers came forward with open records and account books and placed every detail of their business before the investigators. They had nothing to hide, and they asked only that their case be heard fully and impartially. They justified their requests with actual facts and figures, and they can do so again. They made no threats except the common-sense admission that they must get more for their milk or they would be compelled to go out of the dairy business. This necessity has been verified thruout all of the producing sections contributing to the Philadelphia market by the largest summer sales of dairy cows that have been known in years. The effect of such sales was not serious during the summer, but were sure to be felt during the natural scarcity of winter and in the next few years.

The value of the Inter-State Association to the farmers can not be estimated. It has provided the machinery for getting before the public the condition of all of its members. It has spoken for a membership of thousands where the individual has to speak for himself alone. With an organized campaign of education it has accomplished what could never have been done by individual dairymen acting independently. And it has done its work in a manner to command the respect of all classes.

* * *

ENFORCING ECONOMY

Retailers in several of the big cities are preparing to enforce economies that will test the consumers' desire to cut the cost of living. A big retail grocery company with 1,225 retail stores in Philadelphia has announced that it will discontinue telephone service and make no more deliveries of goods purchased. Several large New York stores are preparing to curtail charge account privileges and otherwise reduce service.

It is well known that so-called service, including prompt delivery of the smallest packages, taking of small orders by telephone, granting "exchange" and "return" privileges on charge accounts, extension of credit that more conservative business would not permit, makes up a large part of the retailer's margin and contributes heavily to the high cost of living. The price of food, so loudly denounced, is to a large extent the price of expensive and luxurient service. Thus the Market Department of the New Jersey Department of Agriculture puts the cost of transporting farm products from country to city as only 6 percent of the consumer's price; cost of handling by wholesale dealers as 7 percent and cost of handling by the retail dealers as from 25 to 50 percent of the consumer's price. Here, then, is a chance to deal a heavy blow to high prices.

Early indications are that city consumers will not take kindly to the change. They have come to regard lavish service as a necessity, and the stores will have a serious trial in enforcing these economies. It remains for the real economist to develop a system whereby service and merchandise may be separated and each sold for what it is. Let those who want it have the expensive service and pay for it. Let those who want only merchandise have the privilege of buying it and carrying it home without having to share the cost of a service they do not need and do not want. In the past, the poor and middle classes have helped pay for every service demanded by the most fastidious, and they paid for it whether they availed themselves of the privileges or not. If the consumer is brought to understand what service costs him and what actual food and other necessities cost, the proposed reforms will have served a useful purpose, and may lead to a better understanding between consumer and producer.

* * *

CAN YOU ANSWER IF ASKED?

We wonder whether the average farmer is making more effort than usual to keep accurate account of cost of production this year than usual. Does he realize the greater than usual necessity for this work? There never was a time when the public felt the necessity of looking closely into the cost of its food as now, and it is devising governmental agencies to regulate and control the production and handling of its food. It is not enough for the farmer to know that he is not making an undue profit, he must be able to show conclusively that he is not and he can do this satisfactorily to the public in no way but by producing first-hand figures. Guess work and trumped-up accounts will not do.

The public is usually fair when it is convinced that certain prices are necessary, but it is right in asking to be shown. In the investigations which are being made it is up to the farmer to prove his case and this he can easily do if he will but keep a simple set of books showing what it costs to produce the different products. The figures produced by the dairymen last year before the Governors' Milk Commission were convincing, and it was these figures alone which convinced the public of the justice of their demands and thus gained the advance in price.

* * *

A DIFFERENT CITY COMMITTEE

The City of Baltimore has an active civic organization known as the City-Wide Congress. A very important branch of the City-Wide Congress is the Committee on Maryland Agricultural College. A recent report of this Committee deals with the present problem of an increased food supply. Following are a few extracts from that report which we wish to commend as the most sensible and best advised comments that we have seen put out by any city organization and better than many that have been advanced by national organizations of semi-public nature. Note the following observations on city relationship to farming at present:

"To offer the farmer gratuitous advice, of which he has already received a super-abundance, to appeal to his patriotism while offering his labor larger remuneration in industrial occupation than he can possibly pay, to urge the working of larger acreages without offering him the slightest financial assistance toward the purchase of seed, fertilizer or necessary farm machinery, seems to us to be the very hight of absurdity."

And the following on farm labor:

"To ask the farmer to finance a laborer, who after agreeing to serve him for a stated term walks off his farm in the midst of harvest without ever a thought of his indebtedness and responsibilities, is to ask something which no business man would think of doing. How dare any farmer plan for the working of increased acreages under such conditions?

"Surely some way should be devised by the Legislature to place responsibilities where they properly belong, both on employer and employee. As matters stand today, the employers of farm labor assume all responsibilities and the employees have none whatsoever."

And finally:

"We do not favor the multiplication of volunteer organizations, whose undirected efforts can hardly solve these great problems. On the contrary, we urge that existing state agencies be utilized to their utmost capacity and that every loyal citizen give them his most unselfish co-operation and support."

The entire report shows a fine, common-sense grasp of the farmers' problems and the further sense to know that these problems can not be remedied by spasmodic volunteer organizations. More power to this agricultural committee.

HARRISBURG NOTES

A Costly Experience.—The general assembly of 1917 closed its session true to form. Its sittings were protracted 13 hours because of a fight due to political animosities. It piled up an expense to the commonwealth of over $1,000,000 by general estimates and when all the printing and other bills are in it may run more. It passed fewer bills than any session in a decade and has left 696 in the hands of the governor. It kept things in a turmoil and disturbzed interests of every kind, requiring attention that could have been used for national benefit to be concentrated here. It wore out everyone connected with it and furnished an instance of factionalism run wild, the only discussions taking place in the halls worth mentioning being on bills of a political nature or to vent feelings. It established a record for unique parlimentary situations and the men at the helm can not say today just how much it appropriated. It was a general talkfest from which neither political party and certainly no faction emerges with credit. It was ordained to do nothing and it took six months to do as little as possible. In instances already pointed out it has been of service and there are bills pending which will be of value when approved, but it could all have been done in half the time and at half the expense.

Mr. Patton's Status.—Secretary of Agriculture, Charles E. Patton, was one of those caught in the cyclone of factionalism. Mr. Patton embarked in factionalism last year when presidential ambitions and loyalty were the Capitol terms to cloak a struggle for control of the Republican organization, but since that time he has been very active in his departmental work and there was a belief that he would pull thru. Local influences played quite a part in his rejection by the Senate, while men who had been more conspicuous in politics got by without a word. It is possible that Mr. Patton may regain place in the Department. At present he is out. If the governor reappoints him on the score that he is directing work that is vital to the food supply of the state, the auditor general will challenge the right to name and the matter will go to court. Under the bill pending to create a commission of agriculture whose members are to be paid $1500 a year, there will have to be new appointments made to that body. This commission will have authority to name the secretary of agriculture. It is contended that in event of this bill being approved that the commissioners, who will be named by the governor, would feel like taking care of the governor's friends and that Mr. Patton might be named again. As this election would not have to go to the Senate, it is held that it is not a matter coming under the constitutional requirement of senatorial approval. Meanwhile Deputy Secretary C. E. Carothers is administering the department.

The Agricultural End.—It fell to the lot of the Department of Agriculture to get tangled up in the closing fight. One of the chief points of difference which prolonged the session was the action of the conference committee in charge of the bill in striking out the appropriations for farmers' institutes and farm counsellors on the ground that it was a duplication of the work of State College. A combination of anti-organization, rural, labor and educational men forced the restoration of the $40,000 item for the institutes. The other went by the boards. The general appropriation bill kept the legislature stirred up the whole of the last week. It could have been out of the way weeks before. It was held back because the governor held back his appointments.

The Appropriations.—While it is impossible to say what appropriations will be until the governor finishes work on the bill, and he seems to be as uncertain about it as he was last session, it is interesting to note just what was allowed to the Department of Agriculture. The salaries are not changed. The commission is given $25,000 for expenses and if the $1,500 salary proposition goes thru the item will be needed, but there is another item of $5,000 for the same purpose as a sort of alternate in case the other goes down. Departmental traveling allowance is $7,000; farmers' institutes, $40,000; bureau of disbursements, $7,500; bureau of statistics, $25,000, a merited increase; tree inspection and pest suppression, $100,000; white pine blister eradication, $10,000; bee inspection, $10,000; State Board of Agriculture, $2,500; seed inspection, $2,500; fertilizer inspection, $35,000; feeding stuff inspection, $20,000; lime inspection, $6,000; linseed oil inspection, $2,000; paint inspection, $3,000; Live Stock Sanitary Board work, $240,000 and payment of indemnity for cattle, $120,000. The dairy and food division is not materially changed. The Forestry department carries the usual allowances with $200,000 for new reserves. It is hard to tell what the governor will do with the bill.

Nursery Bill Approved. — The tree inspection bill, known as the nursery bill, has become a law. It gives broad powers of inspection, including right to enter premises, and requires a state license. The bill also provides for one inspection a year, quarantine, destruction of infected stock and also of prohibition of movement of products of quarries which may be injurious. Concealment of diseases is made punishable. Dealers and agents must get certificates and out of the state dealers are subjected to regulation. Right of appeal to the secretary of agriculture is given, but nothing is said about appeal to court.

In Governor's Hands.—The most important of the bills affecting the Department in the hands of the governor is that establishing the Bureau of Markets. The appropriation is not what was hoped. Much has been said about this bill and there have been questions as to its provisions in the way of price control. The dog license bill is also in the governor's hands. It is most important to the sheep raising interests of the state.

Money for Townships.—Present plans are that the townships of the state should be paid their shares of the bonus under the Jones "Dirt Road" law. The idea is that so long as the state is taxing direct inheritances it should help pay for roads. The townships are creditors of the state to extent of almost $3,500,000 and have been called upon to file their reports with the State Highway department by August 1. These reports were due January 1 and those which fail to file will not be paid.

Farms and Gardens Protected.—Under terms of an act just approved, it is a misdemeanor punishable by fine of not over $100 or imprisonment for not over a year for any person to steal, remove from the ground, take away or destroy any seeds or plants set out for food. This action, while called a "war garden law", applies to farms as well as to gardens. The only thing necessary is to catch the person stealing or destroying and bring a charge. Popular opinion is expected to do the rest.

Fishermen's License Lost.—The bill proposing a dollar fishermen's license was defeated in the House. The fish code is in the governor's hands. All fishery work is liable to be interrupted for a time because the commissioner failed to get confirmed. — Hamilton, Harrisburg, July 2.

NEW YORK NOTES

Storage Holdings Good. — For the first time in eight months, cold storage holdings in eggs are greater than they were one year ago. Butter holdings of June 15 were 17.3 percent less than a year ago.

Wheat Campaign.—Governor Whitman is sending letters to the chairmen of various county Home Defense committees of the state urging their personal attention to the campaign for a million acres of wheat in this state next year. A superintendent of wheat products will be appointed in each county who is to see to it that his county's quota of wheat is secured. Superintendents will be appointed by the special committee for this work of the New York Agricultural Society.

State Police Horses.—A special train filled with extra fine horses purchased from the British government arrived at Fayetteville for the use of the State troops, 232 in number. They were shipped at Lathrop, Mo., and a squad of the remount detachment at Syracuse assisted in their unloading. It was impossible to find in this state sufficient animals of the quality needed.

John Barleycorn in Danger. — At the recent annual meeting of the American Medical Association in New York City, alcohol was ruled out of the practice of medicine, as having no drug value either as a tonic or stimulant. The president of the association, Dr. Charles Mayo, declared that national prohibition would be welcomed by the profession. Local dailies have been flooded of late with hysteria from the brewers of the country, under the caption of a pathetic plea for milk for the babies, the mothers, soldiers, etc. Such advertisements rashly state that if prohibition comes in, milk will be 30 cents a quart. The loss of brewers' grain for a cattle food is shown to be an absurd argument, as in making beer only 30 pounds of food to each 100 pounds remains after the grains used (barley, corn and rice) pass thru the malting processes. Give us the entire grains and the farmers will be able to produce more milk — while barley, now an almost unknown factor as human food, will come into use into wholesome form, as barley flour.

More Co-operative Milk Plants Needed.—R. D. Cooper, president of the Dairymens' League, urges more locally owned co-operative milk plants, which shall be prepared to ship milk as well as to manufacture. At De Ruyter, N. Y., the farmers have owned and operated a milk plant and feed store, saving $10 to $18 per ton on feed the past six months. Seeds, farm implements, feeds and groceries are recommended as desirable side lines for such plants.

Sheep for the Farmers.—There are 10,000 shorn yearling sheep on the farms of the New York Central railroad at Fuera Bush and Selkirk, near Albany, waiting to be claimed by farmers. They are a cross between Merino and Lincoln, well adapted to the farms of the state, and will be sold for about $14 a head, F. O. B. Selkirk. They will be sold for cash, or on approved security.

The Feed Question.—The Dairymens' League says the time for action on the feed question has arrived, and invites active consideration of the advisability of the League entering into wholesale handling of feed for its members. President R. D. Cooper ascribes the fall in dairy products and eggs to recent agitation on the part of the government, and calls the situation a very unjust one, as the farmer was already a victim of feed manipulation, late pastures, etc. He ascribes the decrease of 25 percent in the number of heifers being raised, also the great slaughter of cattle and poultry, to lack of prohibition of price manipulation on the part of the government.

Cornell's Young Dean.—Albert R. Mann has been elected dean of Cornell University in place of Beverly T. Galloway, who is serving the government at Washington. Dean Mann is the youngest dean in the history of the college and one of the most popular members on the college executive staff.

New Municipal Markets. — The Mayors' Conference hopes to establish and equip municipal markets in every city of the state by September 1, such markets to be under the new market law.—F.

NEW JERSEY FARM NOTES

Economy in Transportation. — The state committee on public safety suggests that farmers unite in their purchases of fertilizer, as a matter of economy. The American Railway Association has compiled statistics showing that only 47 percent of a car's space is used in the average shipment of this commodity, and the figures for March last indicated that 1,532 cars of space were actually lost thru the practice of loading small shipments. Combination buying is urged, so that every car will be filled to capacity.

Liability Law.—The new law, compelling employers to insure against damages under the Workmen's Compensation Act, became effective on Wednesday, but the penalty provision of the statute will not be operative until the lapse of 90 days, which means October 2. The penalty is a fine of a dollar a day for each employee, the amount not to exceed $100, for the period during which the employer failed to comply with the law. Two acts on this subject were passed by the last legislature. In the main act, farm and domestic employees are exempted, but in the second statute they are included. The interpretation being placed upon the situation thus created is this: Under the employers' liability act of 1911, employers of farm and domestic labor are still liable for damages for injuries or death, but are not compelled by this new legislation to provide themselves with liability insurance.

Local Option.—Declaring that it is a political issue which must be settled, Senator Emerson L. Richards is out with a proposition to have a local option bill passed at the next session of the legislature providing that before it becomes operative it shall be first approved by the people at a state-wide referendum. Richard's proposal is interesting because it comes from a Senator representing what has always been regarded as one of the most pronounced "wet" counties.—L.

FARM MEETING CALENDAR

Country Church Conference, State College, Pa., July 10-20.
Society of American Florists, New York City, August 21-23.
Farmers' Field Day, N. J. Experiment Station, New Brunswick, N. J., September 6.
Solebury Farmers' Exhibit, Solebury, Pa., September 7-8.
New York State Fair, Syracuse, N. Y., September 10-15.
Dairy Cattle Congress, Waterloo, Ia., October 1-7.
National Dairy Show, Columbus, O., October 18-27.
Eastern States Exposition, Springfield, Mass., October 12-20.
Pacific National Dairy Show, Portland, Ore., Nov. 16-23.

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INTER-STATE MILK PRICES

The Inter-state Milk Producers' Association announces to its members the following schedule of prices per 100 lbs. at the receiving stations in the 23-cent freight zone during the months of July and August, 1917, with proper adjustments for all freight rates.

Test	3	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8
Price	$2.41	2.445	2.48	2.515	2.55	2.585	2.62	2.655	2.69	2.725	2.76	2.795	2.83	2.865	2.90	2.935	2.97	3.005	3.04

Price of direct shipped milk to be 7 cents per quart, F. O. B. Philadelphia for milk testing 4 percent, with adjustments for fat content at the rate of 3½ cents for each one-tenth point above or below this test. If sold without being subject to test, the price is to be 7 cents per quart, F. O. B. Philadelphia as above.

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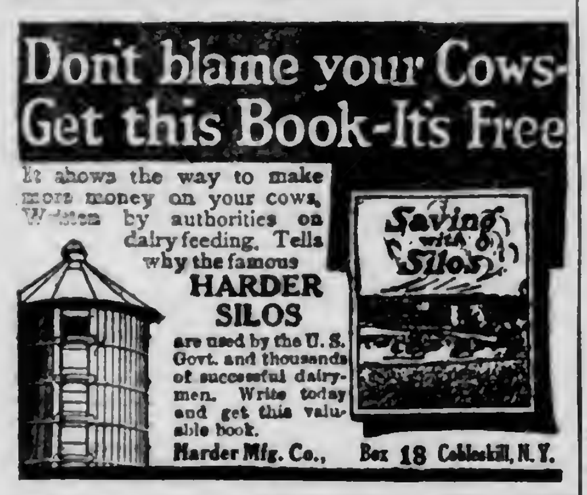
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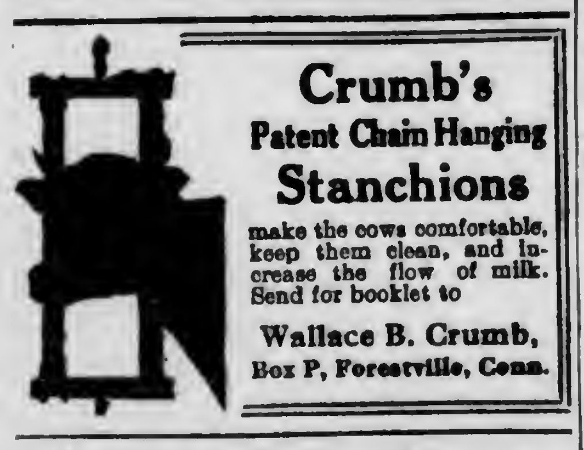
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The Dairy

THREE GREAT JERSEY AUCTIONS

All records for Jersey sales went by the boards when, in three successive public auctions, imported Jersey foundation stock was struck off at higher average prices than had ever before been paid. The three sales held were: The Edmond Butler sale, at Guard Hill Farm, Mt. Kisco, N. Y., on May 3; the W. R. Spann sale, at Shelbyville, Ky., on May 28; and the T. S. Cooper sale at "Linden Grove", Coopersburg, Pa., on May 30. The three auctions brought $170,000.

The Butler sale attracted buyers from fourteen states, and the 92 Jerseys which were offered brought a total of $51,153, or an average of $555 a head. Two young show cows, Darling Lassie and Lassie's Darling, went to L. V. Walkley of Connecticut, for $4,700. The W. R. Spann sale realized $38,155, for 95 head of Jerseys, an average of more than $400. The top price at this sale was paid for Golden Fern's Golden Claire, a daughter of Golden Fern's Noble, which brought $2,525. This cow went to the farm of Jonathan Warner, Ohio. Mr. T. S. Cooper, the veteran Jersey breeder and importer, realized the highest average of his career when he sold a total of 108 Jerseys at an average of $763. Mr. T. S. Cooper also sold 21 cows from this importation prior to the auction for $1,000 each. One of the sensations of the sale was the auctioning off of six heifers by Oxford You'll Do, five of them under one year old, at $6,600. The six heifers were purchased by White Horse Farms, Chester Co., Pa. Simone of St. Saviour's went to Mrs. C. D. Illingworth, of Philadelphia Co, for $4,000.

A Pair of Jersey Beauties That Sold for $4,700 at Recent Edmond Butler Sale, N. Y.

MAKING CHEESE ON A SMALL SCALE

With the present high prices of cheese it would seem that if many farm families understood how easily cheese can be made on the farm, more of them would enjoy the luxury of full cream dairy cheese. The following directions, if carried out, will produce a three-pound cheese, good after four weeks.

Four gallons of whole milk, sweet, is required. First heat it to about the temperature of milk as it comes from the cow. Dissolve one-half of a rennet tablet, Number one, in half teacup of cold water. Add this to the milk and stir thoroly; then add one tablespoonful of salt, stir well and remove from over the fire. In from five to ten minutes the milk will thicken, when it should be stirred with the hand or a large spoon, so as to break the curd up thoroly. After standing a few minutes the curd will settle to the bottom. Then draw or dip off the whey and bank the curd up into a mass. Place it into a large cloth or sack and hang up to drain. In about one hour it will be drained sufficiently. If broken in pieces it will drain sooner.

When the whey is out of it and is reasonably dry, cut the curd into small pieces and place in a crock or pan and pour over it enough hot water (not boiling) to cover. Stir with a spoon and let stand until it is quite tough. Then drain off the water again and cut in pieces. Salt as for butter and it will be ready to press. For a hoop, use a gallon can, melting off the top and bottom, and replace with wooden ones. Grease a cloth and line the can with it. Place over one of the wooden ends, as followers and pour in the curd. Fold the cloth over and then put on the other follower and about fifteen pounds of weight. Set where it will drain. This should stand for twenty-four hours, then remove from the hoop, grease well and keep from flies. Place it on a shelf or plate, keep well greased and turn each day.—C., Tompkins Co., N. Y.

Farm Cheese Will Relieve Meat Shortage

Greater quantities of cheese should be produced and eaten as a substitute for meats which are more expensive. This is especially true upon the farms where milk is comparatively cheap and cheese can be produced at a low cost. L. G. Rinkle of the University of Missouri College of Agriculture believes that by making more milk into cheese the farmers of the nation would be able to conserve the meat supply and increase the cheese production, both of which would materially aid in the present food situation.

One hundred pounds of whole milk will make from ten to eleven pounds of cheese, which is equivalent to about twenty pounds of beef. According to the U. S. Department of Agriculture, one pound of cheese is equal in food value to two pounds of beef. A similar comparison might be made with pork, since pork and beef are not widely different in food value, altho pork has a little higher fuel value. Since hogs furnish the chief source of meat consumed on farms, a comparison of pork with cheese will not be amiss. Twenty pounds of pork, at 52 cents a pound, would be worth $5. Now if 100 pounds of milk will produce cheese with about the same value as $5 worth of pork, the latter should be sold and more cheese used in its place.

Pound for pound, cheese contains nearly twice as much protein as beef of average composition and more than twice as much fuel or energy value. Considering its high food value, cheese is, therefore, a more economical food than meats of any kind. The making of cheese under farm conditions is not difficult. It requires very little time and no expensive equipment is necessary. The apparatus used can be largely supplied from the household utensils. Besides these, a dairy thermometer and a few rennet tablets will be required. The rennet tablets can be purchased from any dairy supply house.

In the Milk Market

Dairymen Selling Cows

The number of dairy cows in Upper Montgomery and Southern Lehigh and Berks Counties is rapidly decreasing. In canvassing for members for the Inter-State Milk Producers' Association in this territory recently, I found that hardly any of the farmers had their stables filled. In fact, few were keeping more than half their usual number while some had disposed of their entire herds. One dealer shipped out a carload of dairy cows a week during April and May for beef, and four other dealers have been buying them up in carload lots right along. It is safe to say that there are not more than half the usual number of dairy cows in the neighborhood.

The high cost of production and low receipts for the products will surely drive the dairy farmer out of the business and the result will be a milk shortage from which it will require a number of years to recover. The milk dealers and others have been advising more economical feeding, eliminating boarders, etc. While this is good, it is no solution for the present situation when the best and most intelligent farmers can not produce milk for less than six cents per quart while they are paid less than four and one-half cents. The result will be a milk shortage with a much higher cost to the consumer and the farmer will not begin to increase the production until he is shown that a profitable price will be received. This process will require three or four years because it takes that long to produce a dairy cow.

We had a milk producers' association here before the Inter-state Association had started its present plan of organization with its county and local units. We tried to get more satisfactory arrangements and better prices from our dealer, but found that we could do very little by ourselves. So we were glad to join with the Inter-state. We now have fifty-nine stock holders in the corporation. There are a few more shippers whom we have not yet had time to see but we already have over 90 percent of the milk shipped from our station under control. We feel proud of the record that only one dairyman has refused to join thus far, and he has only a few cows.—W. H. Rothenberger, Montgomery Co., Pa.

Reduced Herds in Northampton County

The number of dairy cows in this vicinity is growing less. Mr. D. D. Wagner, the largest milk producer of this locality, once kept 200 cows. He now keeps about 60. I know of farmers who kept eight and now keep four, and several who no longer keep cows at all.—Eugene B. Bennett, Northampton Co., Pa.

Why Dairy Cows are Slaughtered

The number of milk cows that have gone to the block in the last few months has been far beyond the average. Cow feed is quoted at $55 to $65 a ton, whereas formerly it was $28 to $38 a ton. The price the farmer gets for the milk is almost the same as before these abnormal feed prices. At the end of the month the feed merchant's account is greater than the milk check and what should a business man do? The farmer sells his cows and the butcher offers the best price.

In one year, a fairly good dairy cow will yield 600 to 700 pounds of water free digestible food, wholesome and well balanced. She will continue to do this for years. If you slaughter the cow you will get barely half of this weight of water free digestible food, of a far inferior quality, besides ending the further production of food. The cow not only yields this great amount of food in the form of milk, but she reproduces herself every year. Thus in six years she would give humanity two tons of best food besides increasing the bovine population six times. Kill her and get a paltry 300 pounds of food and then no more. The way to keep this wonderful food producer going is to pay the farmer a living price for the milk produced. On an average, this figure now is 7 cents a quart.—L. W. Lighty, in Pennsylvania Dept. of Agri. Letter.

Sacrifice of Dairy Interests

The following resolutions were approved by the Concord Grange No. 1141 on May 14, and later approved by the Chester and Delaware County Pomona No. 3 in regular meeting at Concordville, Pa., May 24:

With the increasing sentiment "Back to the Farm" of which the press publishes much in these strenuous days, too much of which is impracticable, we realize that the public fails to grasp the seriousness of the milk situation of today. To many of us, it is evident that this is due to a false impression given out by the Daily Press.

With the price of feed, livestock, help, and everything pertaining to the dairy, advancing in the last five years fully 200 percent, while the price of milk and its products have not advanced over 40 percent in the same length of time, the consumer must necessarily pay an equivalent to this advance or the dairies be sacrificed, as the farmer cannot meet these extraordinary prices.

Dr. Rasmussen, of Pennsylvania State College, on February 1, 1917, made a careful calculation of the cost of milk in Chester County and found it to be 5.93 cents a quart. Since that date, the price of dairy feed products has advanced fully 40 percent.

Farmers who understand these existing conditions, apprehend the seriousness of a milk famine which must inevitably follow, and realize what it will mean to the children and in fact every consumer in a few years. Therefore, Be it Resolved, that we, the members of Concord Grange No. 1141 P. of H., exert ourselves to create a sentiment which will cause the consumer to realize the gravity of the milk situation, and with the very flattering prices paid for beef and grain, only very much advanced prices will arrest the sacrifice of our dairy interests so vital to the consumer. Also, be it

Resolved, that this Resolution be sent to Pomona Grange for adoption and to be approved by each of the different granges of the two counties.

AYRSHIRE AUCTION SALE

The Consignment Sale of Ayrshires by the New England Ayrshire Club, held at Springfield, Mass., June 14th, was the most satisfactory public sale of Ayrshires ever held in the United States. The consignments were of a uniformly high order and the prices paid showed a healthy tone of appreciation among the lovers of this popular breed. The average price for those catalogued was $646, and six young things from one day to three weeks old sold for $610.

The highest price for a female was paid for Douglass Hall Violet "34934" imported and consigned by Hunter and Montgomery, of Scotland, which brought $2,500 and was sold to Hugh J. Chisholm, Westchester Co., N. Y. The highest price paid for a bull was $1,400 for Lessnessock Sir Robert "12992" imported and consigned by Hunter and Montgomery, and bought by H. A. Moses, of Mass.

HOME-MADE FLY REPELLANTS

Spray mixtures may add to the comfort of a cow by keeping off numerous flies. Several of these compounds may be mixed at home. A mixture recommended for this purpose is given in Bulletin 267 of the Ohio Experiment Station as 100 parts of fish oil, 50 parts of oil of tar, and one part of crude carbolic acid. Another formula is one-half gallon of oil of tar, one-half gallon of cottonseed oil, and one-half pint of crude carbolic acid. Such mixtures sprayed on cattle keep off flies for a time.

This New Jersey product sets a new high price paid for a Guernsey bull. Itchen Daisy's May King of Langwater was bred and raised by Florham Farms, Morris Co., N. J., and has recently been sold to B. E. Nixon, Napa Co., California, at a price of $8,000. He is a full brother of Ne Plus Ultra 15265.

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the season when a
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saves most over any other separator or skimming system

IT'S A GREAT MISTAKE for any dairy farmer without a separator or using an inferior machine to put off the purchase of a New De Laval Cream Separator in the summer months especially with butter-fat at the present unusually high price.

Great as are the advantages of the New De Laval over all other separators, as well as over any gravity setting system, at every season of the year, they are even greater during the mid-summer season than at any other time.

This is because hot weather conditions occasion greatest butter-fat losses with gravity setting and render it most difficult to maintain quality of product with any gravity system or unsanitary separator, while, moreover, the quantity of milk is usually greatest, and any loss in either quantity or quality of product means more.

Then there is the great saving in time and labor with the simple, easy running, easily cleaned, large capacity New De Laval machines over all other methods or separators, which naturally counts for more at this time of the year.

Hence the great mistake of putting off the purchase of a New De Laval Cream Separator in summer, whether you already have a poor machine or none at all, and every dairy farmer should keep in mind not only that a De Laval will pay for itself in a few months but may, if desired, be bought on such liberal terms as to actually save its own cost while being paid for.

Every New De Laval is equipped with a bell Speed-Indicator

Every claim thus made is subject to easy demonstration, and every De Laval local agent is glad of the opportunity to prove these claims to you, in your own dairy, without cost or obligation on your part.

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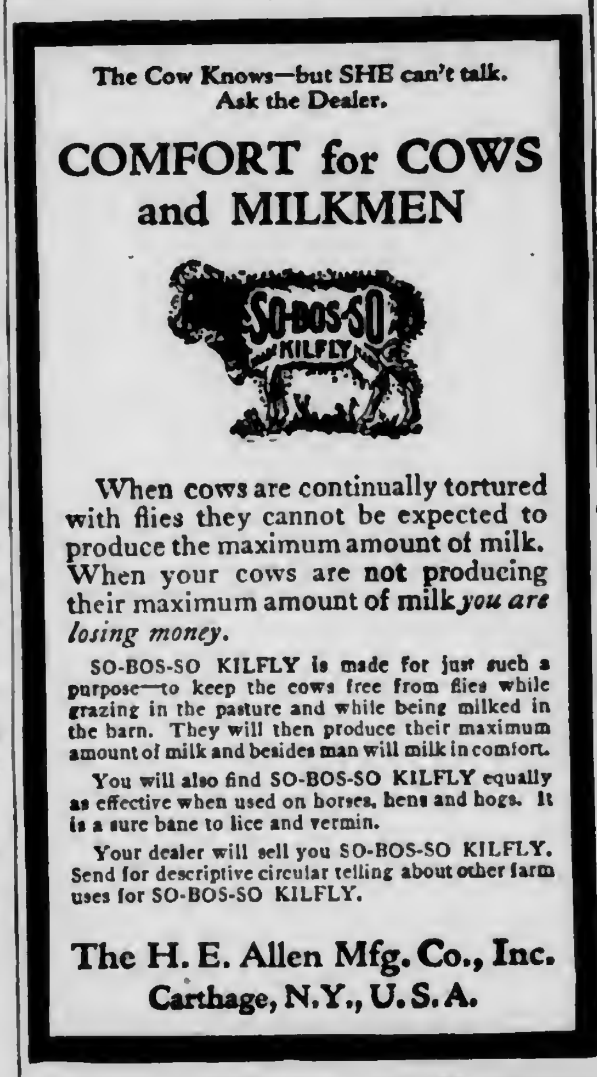
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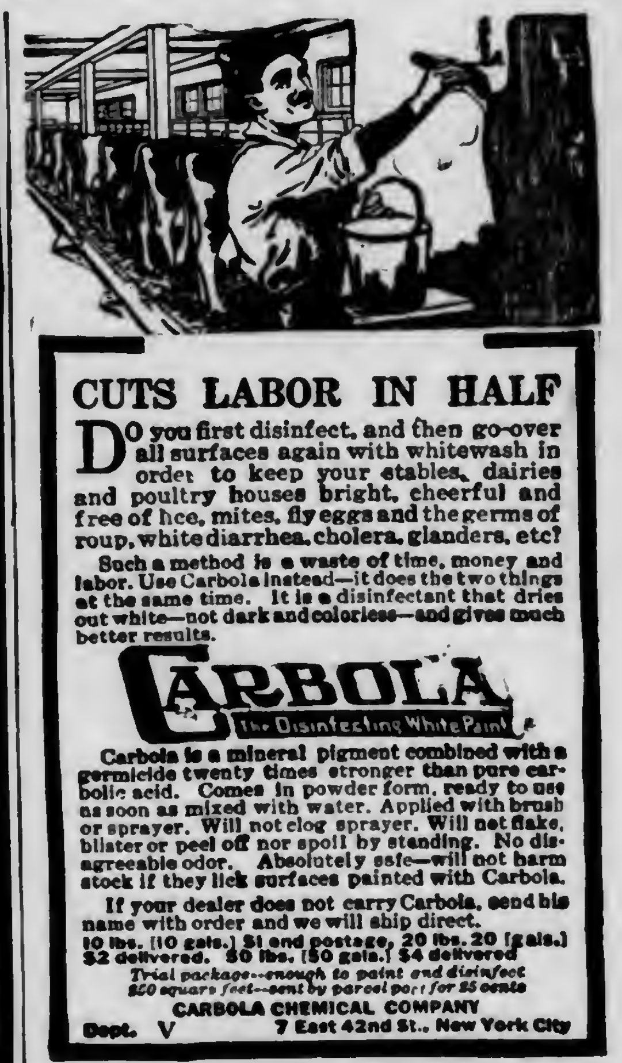
CUTS LABOR IN HALF
Do you first disinfect, and then go over all surfaces again with whitewash in order to keep your stables, dairies and poultry houses bright, cheerful and free of lice, mites, fly eggs and the germs of roup, white diarrhea, cholera, glanders, etc?
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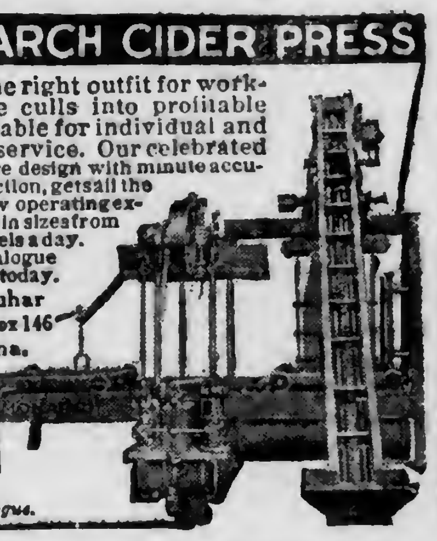

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Horticulture

THE GARDEN IN JULY

Too many people start in with great enthusiasm for gardening in the spring but succumb to the summer heat, and the garden that started off so well in the spring becomes a weed patch. But the garden properly managed can be kept supplying something fresh in the vegetable line all the year round.

The early maturing crops can at once be followed by later crops, some to be gathered for winter storage and some of very hardy nature left where they grew to be used as the thawing of the soil allows, and July is the time to prepare for many of these.

Upon the growth made by the asparagus crop in late summer depends largely the size of the shoots you will get the next spring. After cutting stops, the asparagus should be well fertilized and cultivated clean so as to get a stronger growth to make strong crowns for the next spring.

Succession crops of string beans can be gotten in during July, and a late planting of sugar corn before the middle of the month will give fine ears before frost. In latitude of Philadelphia, Kendall's Giant is a good variety for this planting.

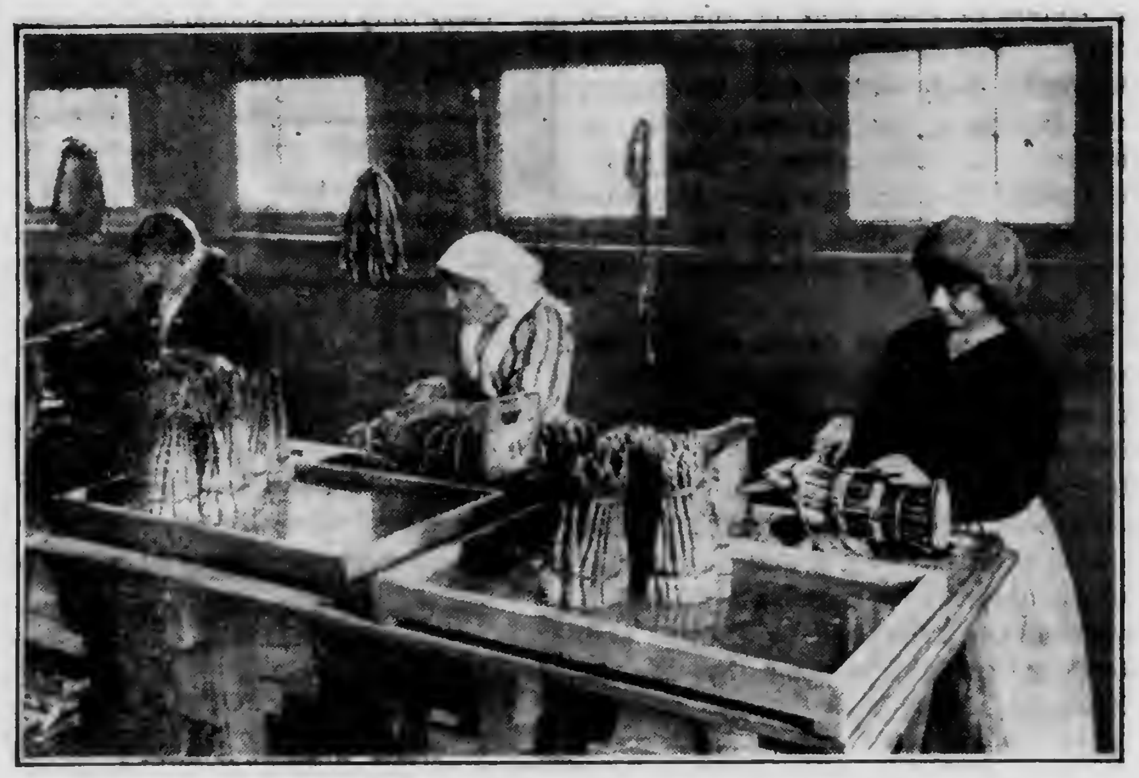


FIG. 1. BUNCHING AND TYING ASPARAGUS PREPARATORY TO PACKING.

Keep the lima beans gathered closely. Any left to ripen will check production. Eggplants are rather late this summer, as it was late before it was warm enough to set them out. Now I am hurrying them with side dressings of nitrate of soda.

I have rather a curious state of affairs in my early tomatoes. I have two varieties, Earliana and Bonny Best, both exactly the same age and treated alike. Earliana is usually the earliest, Bonny Best a close second and then followed by the later varieties from seed sown on the open ground. Just now it looks as tho Bonny Best is coming in ahead of Earliana. That is, the fruits are nearly full size while the Earlianas are much smaller. Last summer I pulled the first ripe tomato June 12th. This season none are ripe the 22nd, and it will probably be early July for the first.

I have some late-sown tomato plants which will be set about the first of July. The idea in this is to have them just coming in before frost and full of well-grown green fruits when frost threatens. These are gathered, wrapped in paper and stored in a cool dark place and the fruits brought in a few at a time to color up in a warm kitchen, so that we can have tomatoes for slicing until Christmas or later.

Canteloupes and cucumbers will also be helped by side dressings of nitrate of soda. These, too, are late this summer, and the canteloupe crop is a very important one here, and, if held back until South Jersey comes in, the result is usually a profitless crop.

The late crop of Irish potatoes can be planted here as late as middle July. The first of the month is better about Philadelphia. Rutabaga turnips should be sown early in July, and the last of the month we can sow a little spinach for early fall use.

I drove the rose bugs from my grapes by spraying with lead arsenate, one pound to 30 gallons of water and a gallon of corn syrup, but they got a good many roses and ate lots of strawberries, which we could not spray.—W. F. Massey, Maryland.

HARVESTING ASPARAGUS

The two cuts presented herewith show scenes in the packing rooms on the farms of Minch Brothers, New Jersey. Asparagus is one of the many products of the several farms conducted by these brothers and, as in all other lines, modern business principles are applied.

For the harvesting of asparagus, an Italian gang of men and women in charge of a manager is employed. Three and one-half cents per bunch is the price paid for cutting, gathering, washing, bunching and packing. Figure 1 shows how women bunch, tie and trim the asparagus. The bunches are then set in shallow trays containing water until the packer is ready for it. Figure 2 shows the packer at work. Moss and paraffine paper are placed in the crate and 24 bunches are packed in each crate.

POTTING STRAWBERRY PLANTS

As soon as the strawberry bed has ceased to fruit, the old bed may be utilized for the growing of plants in pots. Small 2½- or 3-inch clay pots are sunk in the ground just below the joint where the plant will develop on the runners of strawberries. Choose soil of at least ¼ to ⅓ of well-rotted manure and the remainder sandy loam should be placed in these pots, level full. The runners should be located so that the plants will form in the middle of the pots. It may be necessary to hold the runner by use of some wire so that the plant will form there. A small portion of soil over the joint will aid as well. The plant should soon take root at this joint and new leaves be thrown up. In middle or late September, the runner can be severed and the pots removed from their location and a new bed of strawberries be set out from these pots or the strawberries can be shifted into larger pots and utilized for forcing. If the latter is the idea, it would be best to use 4- or 5-inch pots underneath the runner instead of the smaller size, thus encouraging a larger development of the plant for forcing work. Many gardeners have found it a very profitable business to pot strawberry plants and sell these plants to home gardeners. The price of the plants is relatively high and the home gardener or the commercial gardener using potted plants is enabled to get a crop the year following; the plants being raised in pots, they are never checked in transplanting because the roots and leaves are intact. This is one of the best methods of handling the plants.

Setting Out The New Strawberry Bed

Growers who have neglected to set out a new strawberry bed prior to the middle of August and those who do not care to renew the old bed, may set out new plants at this time of year and still have a crop the following season. The method of setting out a new bed during August varies somewhat from earlier planting. The variation is in the need of setting the plants closer together in the row and the rows also nearer. Accounting for this fact, there is not enough time between August 15 and the close of the growing season for plants set at regular distances to send out enough new plants to fully cover the ground but by closer planting enough will be sent out to fully occupy the space allotted and thereby return a crop.

Attention to the proper fertilizer supply should be given, especially as to the amount of nitrogen; at least 4 percent nitrogen should be found in the fertilizer and from 8 to 10 percent of phosphorus. Be liberal; apply from 12 to 15 hundred pounds per acre, or slightly more. During September, an application of 100 pounds of nitrate of soda may aid somewhat in hastening the plants. Clean cultivation and good plant growing methods should be utilized.—A. E. Wilkinson.

Timely Fruit Notes

By Dr. J. P. STEWART

Deferring Use of Self-Boiled Lime-Sulphur—Thinning Fruit

"How long after mixing is it safe to use self-boiled lime-sulphur? Do you know of any good thinning shears?"—F. L. E., Bradford Co., Pa.

If self-boiled lime-sulphur is kept fully covered with water it can be kept indefinitely after mixing, without material change.

For thinning, grape shears are commonly used. They can doubtless be secured from any good general handler of horticultural supplies. In general, however, I do not consider that any shears are needed for thinning apples or peaches, as the work can be done fully as well and more rapidly by hand after a little practice of the right sort.

Spray Injury and Control of Aphids

"Will you please tell me what are the dark red spots on the peach leaves that I send you, and if the spray caused them? I notice that only about one tree in fifty is losing its leaves. This led me to believe that it was caused by winter freezing. Is it possible to kill plant lice on apple trees by spraying after the leaves have curled? If so, please tell me how to do it.

"Have had quite a little peach leaf curl this spring, more than I have ever seen in this locality."—B. S. D., Blair County, Pa.

Replying to this inquiry, I would say that the dark red spots on the leaf are due to spray injury, in my opinion. It is possible that the irregularity in the occurrence of the injury is due to either the variable resistance of the different trees or possibly to a difference in the abundance of the application, or to a variation in the material as it came out of the tank.

In regard to plant lice, would say that it is likely to be extremely difficult to affect them much by spraying at the present time. It is quite probable that the amount of damage from aphids will not increase materially beyond its present stage, unless your infestation should happen to be due entirely to the green apple aphis, which is not likely. It is very probable that a considerable amount of your present infestation is due to the rosy aphis which should be developing its third generation about this time and this generation migrates from the apple to other hosts until fall. Also the various natural enemies of aphids should now be multiplying very rapidly and will doubtless keep them in check to a considerabe extent during the remainder of the season regardless of the particular species which you have.

Peach leaf curl is especially prevalent this year on account of unusually favorable moisture and temperature conditions. Thoro spraying with winter strength lime-sulphur before any growth whatever has occurred in the buds is essential for the proper control of this disease.

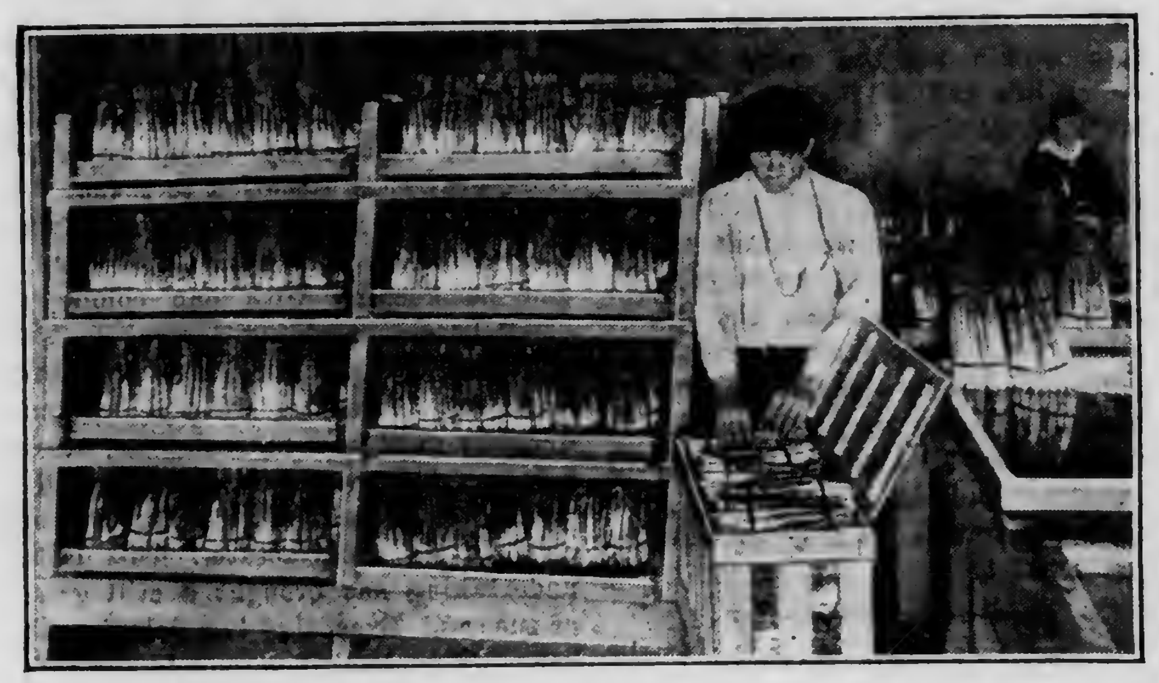


FIG. 2. PACKING ASPARAGUS ON MINCH FARMS, NEW JERSEY.

Plums for Top-Working on Abundance

"What would be the best variety of plum to top-work on stock of the Abundance variety? One of our fruit growers has a number of trees of the above named variety which he wishes to top-work and he is anxious to know what variety could be used most successfully."—H. N. C., Luzerne Co., Pa.

In regard to the best variety of plum to top-work on Abundance, I would say that so far as I know there has been no definite work done on the value and affinities of this variety when used as a stock. I would expect, however, that almost any other plum would unite satisfactorily with it.

In that case, if he wants a purple plum primarily for commercial use, he could use either the Lombard or Bradshaw. If he wishes something on the prune order he could use either the Italian prune or the Imperial Epineuse. The latter is one of the best in quality of all plums, but is apparently chiefly adapted for home use. If he wishes something on the gage order he could use either the Pearl, Washington, Jefferson, or Hand satisfactorily.

The best method of doing this top-working is by means of budding during late July or August.

ARSENATE OF ZINC

"Would like to know if arsenate of zinc is a good remedy for potato bugs and other bugs on plants. If so, what is the proportion to use? I see it recommended, and some of my neighbors are using it. The papers usually recommend arsenate of lead."—Mrs. C. h., Gloucester Co., N. J.

Arsenate of lead is usually recommended because it is less harmful to foliage. Arsenate of zinc is largely used on the Pacific slope. It kills insects somewhat more quickly than lead arsenate. When zinc arsenate is used with bordeaux mixture it is harmless. One pound of zinc arsenate is equal to three pounds of arsenate of lead.

SPRAY SCHEDULE FOR GRAPES

First Application.—About a week before the blossoms open or when the shoots are 12 to 18 inches long, spray with bordeaux mixture, 4-3-50, for fungous diseases, adding 2 to 3 pounds of arsenate of lead paste, or one-half that quantity of the powdered form, for flea beetle, rose chafer, etc.

Second Application.—Just after the blossoms fall, spray with the same materials as in the first application for the same fungous diseases and insects and for the grape berry moth, grape leaf folder, and adults of the grape root worm.

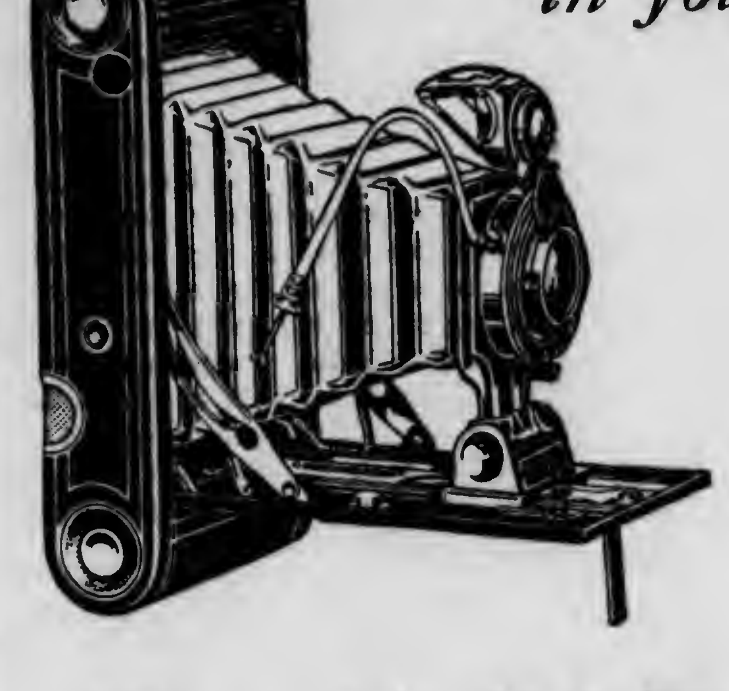
Third Application.—About 2 weeks later use bordeaux mixture, 4-3-50, arsenate of lead paste, 2 to 3 pounds, 40 percent nicotine sulphate, 1 part to 1,500 parts of the spray mixture, for fungous diseases, berry moth, eight-spotted forester, grape leaf folder, brown grape aphis, grape root worm, and grape leafhopper. To destroy the leafhopper, direct the spray against the lower surface of the leaves. To control the berry moth, thoroly coat the grape bunches with the spray.

Fourth Application.—About 10 days later, or when the fruit is nearly grown. If black rot or mildew are still appearing, spray with neutral copper acetate or verdigris at the rate of 1 pound to 50 gallons of water.

GOOD CROP OF FINE PEACHES IN NEW JERSEY

Prof. M. A. Blake, horticulturist of the New Jersey Agricultural Experiment Station, reports that it now seems certain that New Jersey will have the finest crop of peaches that has been produced in several years. The set of fruit is not nearly as heavy as in 1915 when a record-breaking crop occurred. At that time, however, there was no natural thinning of the fruit upon the trees in June, with the result that altho the crop was very large, the fruit averaged small because of the excessive load upon the trees. While the set of fruit was almost equally as heavy at the beginning of 1917, there is to be a large natural thinning.

Altho spray materials have been higher in price this season and labor difficult to secure, most peach growers have made a special effort to get their fruit well sprayed and cultivated.



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The Government this year is asking farmers to put increased acreage into grain. There is now a great demand for farm laborers to replace the many young men who have volunteered for service in the war. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or
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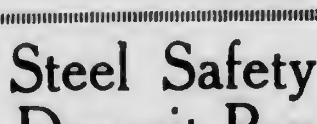

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261 S. 3rd St., Phila., Pa.

Poultry

HOW TO GET RID OF MITES IN POULTRY HOUSES

Lice by day and mites by night furnish the unhappy condition of poultry kept under insanitary surroundings. Treatments for lice are not effective for mites because the latter work only at night, making raids on the fowls from their hiding places in crevices of the roosts and cracks of the building. To destroy mites and keep the flock free of their depredations, insecticide sprays and a sanitary building are necessary.

The presence of mites is indicated by small black and white specks on the roosts—the excrement of these insects. The first step is to get rid of the hiding places so far as possible. The roosts should be taken down and all unnecessary boards and boxes removed. In heavily infested houses the mites are to be found in all parts of the building, including the roof. Where they are less numerous, the infestations usually are confined to the roosts and nests and the walls immediately adjacent. For small coops, a hand atomizer will suffice for applying insecticides as sprays; but for larger houses, a bucket pump, knapsack sprayer, or barrel pump is desirable. A rather coarse spray should be applied from all angles and thoroly driven into the cracks. The floor also should be treated, as many mites fall to the floor when the roosts are being removed.

Of the several materials that have proved effective, one of the so-called wood-preservers, consisting of certain coal-tar products, known as anthracene oil, with zinc chlorid added, has given particularly good results. Its repelling power lasts for months. The cost is about $1 a gallon, but twice the quantity may be obtained by reducing with equal parts of kerosene.

Crude petroleum is almost as effective, retains its killing power for several weeks, and in most localities is very cheap. It will spray better if thinned with one part of kerosene to four parts of crude oil.

Both of these materials often contain foreign particles which should be strained out before spraying is begun. It has been found that one thoro application of either of these materials will completely eradicate the mites from an infested chicken house, but ordinarily it is advisable to make a second application a month after the first, and in some cases a third treatment is required. These subsequent applications may be made with a brush, using the materials pure and covering only the roosts, their supports, the walls adjoining, and the nests if they are infested. This method of application is effective for the first treatment also if the houses are not heavily infested. Poultry should be kept out of the treated buildings until the material is well dried into the wood.

Used as a dip, crude petroleum will also destroy the small mite which causes scaly leg. In dipping for this mite, the solution should not be allowed to reach the flesh above the infestation, or to get on the feathers.

GOOSE RAISING NOT AFFECTED BY HIGH-PRICED GRAINS

Geese can be raised in small flocks on general farms, on pasture or non-productive land, and do not require any great amount of grain. Low, rough pasture land, used for pasturing other stock, and containing a natural supply of water, offers the best conditions. Many geese are kept in the South to kill weeds, especially in the cotton fields, and their use could well be greatly increased for this purpose. They are good grazers and will do well on grass and forage crops alone, except during the winter months, when they may be fed largely on available roughage such as clover, alfalfa hay, silage, cabbage, mangel-wurzels, or any waste vegetables. If the grass or forage is limited, it may be supplemented by light feeds of common or home-grown grains.

Geese do not need shelter except during cold winter weather, when open sheds may be provided. Goslings are not usually hatched until good pasture is available, and need additional feed only for a few weeks. The range of pasture used either for goslings or for geese should be large enough so that the grass will remain clean, or the stock should be moved frequently to fresh land. Coops, barrels, or some other dry shelter should be provided for the young goslings. Geese are very hardy and free from diseases and insect pests.

MITES AND LICE ON POULTRY

The above is the title of Farmers' Bulletin No. 801, recently issued by the Department of Agriculture, Washington, D. C. This bulletin should be in the hands of every poultry raiser, since these vermin are the cause of great loss of life and production in poultry plants of all sizes. The authors, F. C. Bishop and H. P. Wood, describe in detail the life history and activity of mites and the different kinds of lice and tell how each may be successfully combatted. They discuss the use of sodium fluorid, the use of which has been tested out by the Department and which has proved very efficient in the eradication of all kinds of lice on poultry. The bulletin contains 27 pages and is illustrated. It may be had free upon request.

EGG-LAYING RATION

Good Results Obtained from Wheatless Ration for Hens

With wheat so high, poultrymen will be interested to learn that on the United States Department of Agriculture experiment farm excellent egg-laying results were secured with a wheatless ration. Thirty Leghorn pullets to which this ration has been fed for 1½ years produced an average of 147.3 eggs per hen for the pullet year. This compares favorably with egg yields secured on other rations containing wheat and therefore more expensive. This pen, moreover, during the first 16 weeks of its second year has averaged 28.5 eggs per hen, 17.5 eggs per hen being produced in March.

The same wheatless ration has been fed since last November to a pen of Buff Orpington pullets, which have laid 53 eggs per hen in 20 weeks and hold the highest egg record of any of the large feeding pens of pullets at the farm this year. Two other pens, however, are less than 1 egg per hen behind this pen. The ration used was as follows:

Scratch Mixture.—2 pounds cracked corn, 1 pound oats.

Dry Mash.—3 pounds corn meal, 1 pound beef scrap.

The scratch mixture was fed sparingly, so that the hens ate about equal parts of this mixture and of the dry mash. The total grain consumption of feed for the year was 52 pounds, of which 26 pounds was scratch mixture. Thruout the year it took 4.6 pounds of feed to produce a dozen eggs.

This scratch mixture, with wheat $2.57, cracked corn $1.35, and oats 70 cents per bushel, is 49 cents per hundred pounds cheaper than the regular mixture of equal parts cracked corn, wheat and oats. Another mash which is slightly cheaper than this one is made of 4 percent each bran and middlings, 26 percent beef scrap, and 66 percent corn meal.

If the wheat is omitted from the ration, it is very essential to feed a considerable proportion of beef scrap in the mash, but with present prices beef scrap is one of the cheapest poultry feeds, considering its high protein content.

These experiments, the specialists say, prove that wheat is not essential in an egg-laying ration and that excellent results can be secured by using corn and oats as a scratch mixture, provided this is fed with a good mash containing 25 percent beef scrap.

"BEES AND BOYS"

This article in the issue of May 26 was especially interesting to me from the fact that my second boy, 17 years old, adopted the rule of preparedness several years ago, so far as bees and honey are concerned. He is now able to market considerable honey each year, besides supplying our own table liberally, for a family of six, most of the time. All this is from working bees on shares, and having one or two colonies of Italians of his own at the start. He finds the little insects so interesting that every let-up in other work draws his attention to them.

Some years ago, a young man living back on a hill farm with his father began bee-keeping with one colony of black bees—a wedding present to him. His wife did not live long. The bees went on increasing in number and quantity until he sold, each year, nearly a ton of honey. He finally invented a potato sorter and left the farm to engage in its manufacture. This latter undertaking has brought a still greater success. Excepting two colonies, the bees and equipment were sold for $100.

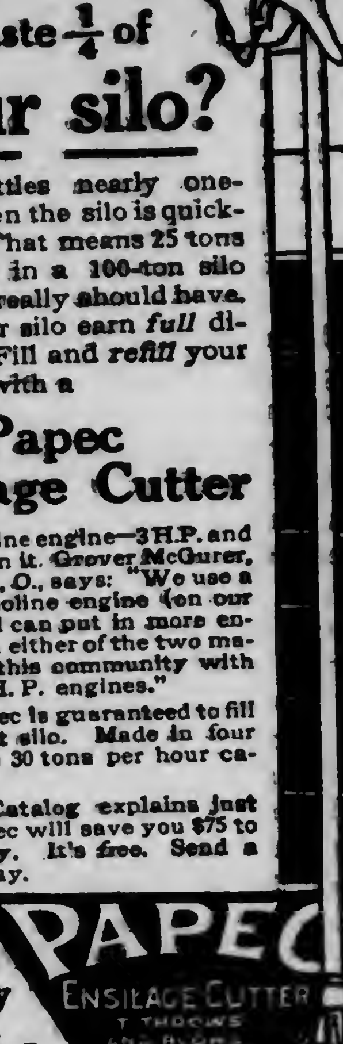
My point is this: The close, careful thought and attention bestowed upon the bees gave a habit of profitable thinking which he carried into the field of invention. It is splendid work for men also, who are out of field work by age, as well as for boys and girls.—C. M. Drake.

WASHING EGGS

Approximately 5,016,000 dozen eggs spoil needlessly every year in cold storage simply because someone has let clean eggs get wet or has washed dirty eggs before sending them to market, according to the specialists of the United States Department of Agriculture. Careful investigations of large quantities of stored eggs show that from 17 to 22 percent of washed eggs become worthless in storage, whereas only 4 to 8 percent of dirty eggs stored unwashed spoil. The explanation is simple. Water removes from the shell of the egg a gelatinous covering which helps to keep air and germs out of the inside of the egg. Once this covering is removed by washing or rain which gets to eggs in the nest, germs and molds find ready access to the contents and spoil the eggs.

This enormous loss in storage eggs largely can be prevented if producers and egg handlers will refrain from washing eggs destined for the storage markets and take pains to reduce the number of dirty eggs by providing plenty of clean, sheltered nests for hens.

Millions of eggs spoil in storage because they have been exposed to dew, rain, dirt, and sun in stolen nests in the grass or fence corners.



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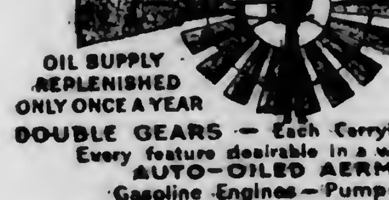

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Live Stock

HOGS FOR PROFIT

We find that hogs will convert inferior grains, fruit, weeds and grass into marketable products at a greater profit than most farm animals in the same length of time. By having sows farrow late in March and during April, the seasons are favorable for growth with less loss from cold, thumps or other troubles which one has with little pigs during cold weather. After weaning, pigs should have milk for a while to start them, then middlings, tankage and whole corn, supplemented later with grass, fallen fruit and kitchen or garden refuse to keep them thrifty and growing. Where one has a small clover or alfalfa lot, or an orchard in which to turn pigs or shoats, they can be grown more cheaply and with less labor, by feeding a heavier corn ration towards fall when one is fattening them for market or for one's own meat.

If one is growing hogs for the market, he should try to have them fit to sell by late September or early in October, for the best prices are paid then. For winter-fed pigs, late in March or early in April they usually are higher in price again.

When the spring litters are weaned, which may be at from 5 to 7 weeks, the sows should be bred again to farrow late in August or September, so the pigs may be weaned and have learned to eat well before cold weather begins. Then these fall pigs may be fed for the spring market. The sows should have a lot or field of some kind of clover in which to spend the summer so as to get plenty of exercise and be separated only a short time before farrowing.

During winter they should have a ration of whole corn, middlings, tankage, milk or slop of some kind and they will eat some silage, or alfalfa hay will furnish a cheap part of a ration, if one has the hay. At farrowing time sows need some attention as to their nests, which should be warm and dry. And the little pigs must be guarded by a board nailed fast to posts in the pens, so old or fat sows will not be so likely to lie on the little ones.

By having the sows farrow during the months named, one can raise two litters each year and feed them for market under the most favorable conditions for feeding and marketing.

In addition to the feeds named, hogs should have access to a mixture of salt, sulphur, soft coal or wood ashes which their systems demand. Then, if there is no water in their pasture in which they can wallow to free them from lice, they will need watching and treatment should they have lice.

We try to have young sows come in with the first litter when one year old, and the good mothers are kept over if their litters number from 7 to 10 pigs; otherwise they are fed that fall. Three or four gilts are bred every spring for the fall litters, and the old sows are kept until they are 5 or 6 years old, or until they get too lazy or careless about lying on their pigs.

We keep only purebred Berkshires, as we prefer them because they may be fed for market at an early age, are matured young and make a nice lot of lean meat, such as our market demands, with less grain than most breeds. Handled in this way, we find hogs a profitable part of our farm operations.—J. N. Glover, Union Co., Pa.

DON'T TAKE A CHANCE WITH SICK HOGS

"Don't take a chance with a sick hog. Act quickly. Get a veterinarian or a trained man immediately. Only prompt action will stop hog cholera losses."

This is the message the U. S. Department of Agriculture is carrying to farmers. The time for argument about anti-hog-cholera serum is past. Explicit figures are readily available which prove unmistakably that when administered in time by competent persons, hog-cholera serum will keep well hogs from taking the disease for a period of 3 to 6 weeks. Not argument, but quick action is imperative to get serum and a trained operator to the farm to treat the hogs. Hogs will be saved and the nation's meat supply increased if every farmer will immediately upon sign of disease call in the nearest available expert to diagnose the complaint and administer whatever treatment is necessary.

The Department of Agriculture is urging that all state, county and local live stock interests, including state veterinarians, live stock boards, state college workers, county agents, and local veterinarians begin immediately to organize anti-hog-cholera preparedness campaigns to reach every farmer in every county. Such organization already exists in many places. Where it does not, there is need of special and immediate action before the hot weather conditions, favorable to hog cholera, come on.

The Department has issued a special hog-cholera poster, "Stop Hog-Cholera Losses," which gives specific directions for avoiding infection by sanitary and self-quarantine measures; also directions for the isolation and treatment of cholera-infected hogs and directions for disinfection and restocking the hog lot.

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31x3 1-2	10.55	11.60	2.75
32x3 1-2	11.50	12.95	2.90
34x3 1-2	12.15	13.35	3.05
31x4	14.75	16.60	3.50
32x4	15.05	16.85	3.60
33x4	15.75	17.20	3.65
34x4	16.10	17.55	3.75
35x4	17.00	18.60	3.85
36x4	17.20	18.65	3.95
34x4 1-2	21.65	23.65	4.55
35x4 1-2	22.70	24.70	4.65
36x4 1-2	23.05	25.15	4.75
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THE MONEY MOON

By Jeffrey Farnol

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CHAPTER XXXI (Concluded.)

When, at last, they came within sight of Dapplemere, and the great machine crept up the rutted, grassy lane, Small Porges sighed, and spoke.

''Auntie Anthea,'' said he, ''are you sure that you are married—nice an' tight, you know?''

''Yes, dear,'' she answered, ''why—yes, Georgy.''

''But you don't look a bit diff'rent you know—either of you. Are you quite sure? 'Cause I shouldn't like you to disappoint me—after all.''

''Never fear, my Porges,'' said Bellew, ''I made quite sure of it while I had the chance—look!'' As he spoke, he took Anthea's left hand, drawing it out into the moonlight, so that Small Porges could see the shining ring upon her finger.

''Oh!'' said he, nodding his head, ''then that makes it all right I s'spose. An' you aren't angry with me 'cause I let a great, big gnome come an' carry you off, are you, Auntie Anthea?''

''No, dear.''

And so, at last, they came to the door of the ancient House of Dapplemere. Whereupon, very suddenly Adam appeared, bare-armed, from the stables, who, looking from Bellew's radiant face to Miss Anthea's shy eyes, threw back his head, vented his great laugh, and was immediately solemn again.

''Miss Anthea,'' said he, wringing and twisting at his hat, ''or—I think I should say, Mrs. Belloo, mam—there ain't no word for it! least-ways not as I know on, nohow. No words be strong enough to tell the J-O-Y—j'y, mam, as fills us—one an' all.'' Here he waved his hand to where stood the comely Prudence with the two rosy-cheeked maids peeping over her buxom shoulders.

''Only,'' pursued Adam, ''I be glad—ah! mortal glad I be as 'tis you, Mr. Belloo, sir. There ain't a man in all the world—or, as you might say, universe, as is so proper as you to be the husband to our Miss Anthea—as was—not nohow, Mr. Belloo, sir. I wish you j'y, a j'y as shall grow wi' the years, an' abide wi' you always—both on ye.''

''An' now, Mrs. Belloo, mam,'' Adam concluded, ''wi' your kind permission, I'll step into the kitchen, an' drink a glass o' Prue's ale—to your 'ealth and 'appiness. If I stay here any longer I won't say but what I shall burst out a-singing in your very face, mam, for I do be that 'appy-'earted.—Lord!''

With which exclamation, Adam laughed again, and turning about, strode away to the kitchen with Prudence and the rosy-cheeked maids, laughing as he went.

''Oh, my dears!'' said little Miss Priscilla, ''I've hoped for this—prayed for it—because I believe he is worthy of you, Anthea, and because you have both loved each other, from the very beginning; oh, dear me, yes, you have! And so, my dears—your happiness is my happiness and—Oh, goodness me! here I stand talking sentimental nonsense while our Small Porges is simply dropping asleep as he stands.''

'''Fraid I am a bit tired,'' Small Porges admitted, ''but it's been a magnif'cent night. An' I think, Uncle Porges, when we sail away in your ship, I think I'd like to sail round the Horn first 'cause they say its always blowing, you know, and I should love to hear it blow. An' now—Good-night!''

''What—did he—Georgy mean by—your ship?'' asked Anthea.

''Why I promised to take him a cruise in the yacht—if you cared to come, Anthea.''

''Yacht!'' she repeated, ''are you so dreadfully rich?''

''I'm afraid we are,'' he nodded, ''but, at least, it has the advantage of being better than if we were dreadfully poor, hasn't it?''

Now in the midst of the garden there was an old sun-dial worn by time and weather, and it chanced that they came and leaned there, side by side. And, looking down upon the dial, Bellew saw certain characters graven thereon in the form of a poesy.

''What does it say here, Anthea?'' he asked. But Anthea shook her head.

''That, you must read for yourself!'' she said, not looking at him.

So he took her hand in his, and, with her slender finger, spelled out this motto.

Time, and youthe do flee awaie
Love, Oh! Love then, whiles ye may.

''Anthea!'' said he, and again she heard the tremor in his voice, ''you have been my wife nearly three-quarters of an hour, and all that time I haven't dared to look at you, because if I had, I must have kissed you, and I meant to wait—until your own good time. But Anthea, you have never yet told me that you—love me—Anthea?''

She did not speak, or move; indeed, she was so very still that he needs must bend down to see her face. Then, all at once, her lashes were lifted, her eyes looked up into his—deep and dark with passionate tenderness.

''Aunt Priscilla—was quite—right,'' she said, speaking in her low, thrilling voice, ''I have loved you—from the—very beginning, I think!'' And, with a soft, murmurous sigh, she gave herself into his embrace.

Now, far away across the meadow, Adam was plodding his homeward way, and, as he trudged, he sang to himself in a harsh, but not unmusical, voice, and the words of his song were these:

''When I am dead, diddle diddle, as
well may hap
You'll bury me, diddle diddle, under
the tap,
Under the tap, diddle diddle, I'll tell
you why,
That I may drink, diddle diddle, when
I am dry.''

THE END

THE MORTGAGE

It was New Year's Eve. Henry Bonfield sat looking into the fire, while his wife was busy washing up the supper dishes and putting the room in order. He was unusually silent, and his wife, as she glanced toward him now and then, began to fear that something troubled him. After she had finished her work, she came and sat down by his side, and as she laid one hand on his shoulder, said:

''You are looking dull to-night, Henry. Don't you feel well?''

''I am a little dull,'' he replied. ''The fact is, Jenny, I don't feel comfortable, as things are. I hoped, by this time, to have had our home nearly paid for; but instead, I've only reduced the debt $150 in the last year. At this rate, the entire mortgage will not be paid off for six or seven years.''

''Is that all?'' exclaimed Mrs. Bonfield, in a cheery tone of voice. ''Now I call that taking trouble for nothing. What's the great difference whether it takes three years or six to pay off the mortgage, so its paid off at last, and we have a comfortable home all the while? Maybe it will be better for us to save and pinch for seven years than for three. Economy will become a habit by that time, and there is no better habit for a 'safe passage thru the world,' as my father used to say.''

''All very well, Jenny, if life were certain,'' answered the husband. ''If I live, everything may come out right. But if I should die before the house is paid for?''

''Don't talk of dying,'' said Mrs. Bonfield, quickly, a troubled expression coming into her face.

''Jenny,'' he said, looking up at length, ''there's one way to make things safe. I've been turning it over in my mind for several days, but didn't just care to speak of it. I could get a life insurance policy.''

He saw his wife's cheeks grow instantly pale.

''Oh! no,'' she exclaimed, quickly, ''I wouldn't do that. The very thought sends a cold shiver all over me.''

''Thousands of people get their lives insured,'' said Mr. Bonfield.

But Mrs. Bonfield shook her head. ''I wouldn't have you do it for the world. Its just like looking death in the face.''

It was all in vain that her husband tried to reason with her.

''Its of no use, Henry,'' she answered. ''I shouldn't have a moment's peace from the day your life was insured. It seems to me a kind of flying in the face of Providence. There's something so cold and calculating in the whole thing—putting up so much money, as it were, against a life—valuing a human life at one, or two, or ten thousand dollars! Oh! no, Henry, I don't want you to do it.''

''I'm sorry you feel so,'' replied her husband. ''It would set my mind at ease in regard to the mortgage.''

''Don't trouble yourself about that,'' said Mrs. Bonfield, trying to speak cheeringly; ''it will be right in a few years.''

When New Year's Eve came round again, Bonfield's circumstances were not much improved. Only one hundred dollars had been paid on the mortgage during the whole year. There had been sickness, loss of time, large doctor's bills, and one or two bad debts. Another baby had come, with the added care and expense.

Bonfield was less cheerful than on the previous New Year's Eve. A shadow seemed to rest over him.

''I wish you could look at things more hopefully,'' said his wife. ''He who feedeth the ravens has us in His keeping as well. Why should we lose the blessings given us today, in fear of some evil tomorrow? We have our pleasant home and our darling children—good gifts and precious. Let us be happy in them.''

Good gifts and precious they were to Bonfield. Few men loved wife and children with a more tender and unselfish love. It was in the very depths of this love that anxiety was born. Fear lest he should be taken from them haunted him night and day. What was to become of them if he should die?

Alas for the next New Year's Eve! It found the death-angel in Bonfield's house. A sudden illness baffled all the physician's skill, and the life on which so much depended went out, and left sorrow, and darkness, and desolation of spirit behind.

''What is to become of his poor wife and children?'' was the anxious question that passed from lip to lip among friends and neighbors. They had not a relative in the place—no one on whom they had any natural claim for help or support. It was this that had made the husband and father so anxious about them, and so earnest to get his home paid for. In the year which had just closed, only a hundred dollars of the mortgage had been canceled, and there still remained six hundred dollars due. This mortgage was in the hands of a man who would not scruple to rob the widow and orphans by taking any advantage within his reach.

Three days after the funeral, Mrs. Bonfield was roused from the helpless lethargy of grief by the reception of a legal paper, giving notice that the balance of money due on the house must be paid by a certain date, or it would be sold in satisfaction of the mortgage. To whom could she go in this sad extremity? Alas! there was no one. In losing her husband she had lost her only human friend, supporter and protector. She was alone in the world.

The extremity of her situation quickened into life all the energy of Mrs. Bonfield's nature. In her painful suspense and anxiety she went to the man who held the mortgage, and telling him her plans, besought him to let the debt lie for one year, and sell then if she could not pay the interest and a part of the debt. He would listen to nothing. The chance had come to make a gain of oppression, and he could not let it pass.

The poor widow went back in despair to her children, and sat down among them, weeping and wringing her hands. Her eldest child, a girl six years of age, tried to tell her something, but her ears were deaf.

''Mother!'' said the child, with the eagerness of one who seemed to forget everything for herself.

''Not now, dear!'' and Mrs. Bonfield tried to push her away.

''But the man told me to give it to you as soon as you came in. Here it is,'' urged the child.

''Give me what?'' and Mrs. Bonfield roused herself a little.

''This letter,'' and the child pushed a letter into her mother's hand.

A letter! When she comprehended that, Mrs. Bonfield's interest awakened. She took it from her child's hand, and opening it, read a few lines, and then let it fall to the floor. But quickly and eagerly catching it up, she held it in wild excitement close to her eyes; then let it fall again, and burying her face in her hands, sat very still, while tears fell in large drops thru her fingers down upon the carpet.

''Dear Jenny (so the letter read): I insured my life after all, and with this note you will find two policies in the Metropolitan. May God keep you.

Your loving husband.''

Sinking upon her knees among her children, the widow lifted her heart in thankfulness to God. Light broke in upon the darkness of her life. The tender love of her husband, that was ever concerned for her good, seemed reaching over from the other side to succor and to comfort her. Death had suddenly taken him away to what seemed an infinite distance. An impassable gulf was between them. Now it seemed as if he were in the very room with her, and that his hands were holding her up and leading her in safety.

''Dear husband!'' she murmured, ''my heart blesses you for this love and care! It will be well with your little ones now. I will stand to them in your stead—toil for them, care for them make their lives blessed as you would have done.''

Household

FARM WOMEN AND THE WAR

The farm woman has played her part in the great national scheme as well as any class of individuals. She has stood a co-partner with her husband in their business of farming. Together they have built their business around their home. Together they have taken their cue from Nature and Nature's God. The woman on the farm has reared her children to replenish where the town woman has failed. She has helped to feed the town population. She has practiced, inherently, an economy in all the smaller as well as the greater things of which the town woman has not dreamed. She has developed common sense in matters of industry relative to home management. While her town sisters have been educated, she had to be content with the district school, but it is hers to excel in a practical education that is so needed at this time.

There are great strides at the present time toward organization in Red Cross work. We need a consecrated womanhood for this needful occupation. The rural women, by their peculiar training, their common sense and sense of economy, while possibly not adapted to leadership, should give of these most commendable qualities, that they may be used in the great national garment that is now being woven by the Red Cross.

It may be the farm woman's duty to stay by the homestead. It is her duty to teach the wee toddlers at her side to prepare for a world peace in the next generation. It is her duty to urge the man she loves most to go to the front; and even in the event of a long struggle it may be her duty to hold the plow. But whatever her duty, we shall find her facing the setting sun as faithfully as she faced the rising sun that marks her day's labor. Because of the fact that the farm gives her more of living than of money, she may not be able to give to the work as much money as inspiration; but we shall find her standing in her place and doing her part well.

The Red Cross should reach out and organize the rural women, utilize the organizations that now exist and give them an opportunity to contribute of their talents. On the other hand, the rural women should feel it their duty to enlist under the banner that can most ably assist the sacred honor of our country.

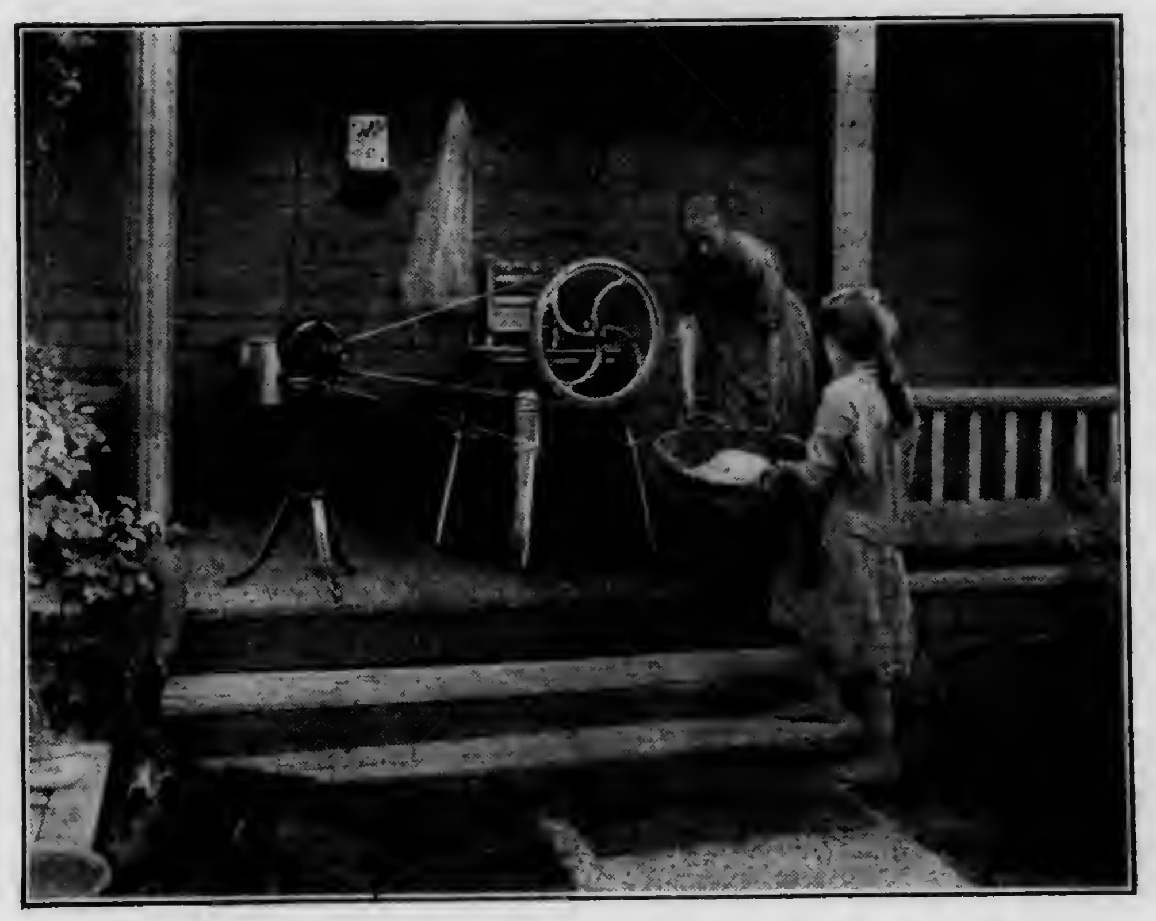
And then after the smoke of battle has cleared away and we gaze over the landscape in the afterglow of a tremendous victory for democracy, our outlook will have changed. Our horizon will have broadened to include the heart throbs of all those who have toiled above, beneath or around us. We shall be satisfied that we have given of our abilities in a national crisis. We shall know that the victory did not come for the mere asking. And out of the remains, as is women's peculiar duty, we shall weave anew a great rural manhood with the Thread of Life which the Master has given to our keeping thru the ages.—Eugenia Grover Benn, Lycoming Co., Pa.

FRUIT JUICES KEPT WITHOUT SUGAR

Fruit juices for use later in jelly making can be sterilized and bottled without sugar and made into jellies at the housewife's convenience. This enables her to do with fewer jelly glasses and to distribute her purchases of sugar for jelly making thru the year. Moreover, with the bottled juice she can make a greater variety of jellies, as juices which will not jell can be put up when the fruit is ripe and combined later with fruits that will jell, or fruits ripening at different seasons can be combined. For example, the juice of strawberries, cherries or pineapple can be kept without sugar and later when apples are plentiful can be made into combination jelly.

From the unsugared sterilized juices of currants, apples, crabapples and grapes, kept from 9 to 18 months, the Bureau of Chemistry, U. S. Department of Agriculture, recently made jellies of excellent texture, flavor and color. To put up unsugared fruit juices for jelly making, proceed exactly as if jelly were to be made at the time. Cook the fruits until they are soft and strain out the juice thru a flannel bag. Heat and pour while hot into bottles previously scalded. Fill the bottles full, leaving no air space beetween juice and cork or seal. Place the filled sealed bottles on their sides in water near the boiling point, and keep them in the bath for about 30 minutes. Make sure that the corked or sealed end is under the hot water. As soon as the bottles are cool, cover the cork with a paraffine seal. Thoro sterilization and sealing are absolutely essential to success.

To make jelly from the sterilized juice, test its jelling quality, add the proper amount of sugar, and proceed as in making jelly from freshly expressed juice.—U. S. D. A.



THE ELECTRIC LIGHT UNITS HELP MOTHER ON WASH DAY.

HOT WEATHER DRINKS FOR CHILDREN

In the summer time, my children come in to lunch too tired and hot to be able to digest the simplest meal. Their first demand is for something refreshing to drink and they need it. But if it is right at meal time, lemonade or any of the fruit juices would disagree with the milk which is a part of each meal; and the customary glass of milk does not appeal to them as refreshing.

I have found iced or cold cocoa a happy solution of the problem; and am always prepared for it, by keeping on hand a cocoa syrup which I make as follows: One-half cup of sugar boiled in one-half cup of water. One-half cup of cocoa dissolved in one-half cup of boiling water and added to boiling syrup. Boil all for a few minutes and cool. This will keep a number of days. One tablespoonful added to one cup of milk makes cocoa of about the strength that children like. It is more palatable and easier to make than cocoa made with boiled milk and cooled.

Cocoa milk shake made by the addition of one beaten egg, or less, for each person, whole wheat bread and butter and rhubarb or baked apples, or other fruit makes a complete and well balanced meal, and one which satisfies and delights the children. Cocoa malted milk, shaken in a bottle until it is frothy, is also a prime favorite.

Both of these drinks are ''meat substitutes'' and most appropriate for hot weather. Another adavantage lies in the fact that partially skimmed milk may be used, since the cocoa adds the elements removed. Syrup made with cocoa is more satisfactory than if made with chocolate, because the fat in the chocolate hardens when cooled.—Jeanne Voorhees Beattie.

USING THE LIQUIDS IN WHICH VEGETABLES ARE COOKED

Vegetables are valuable in the diet chiefly because of the large amount of mineral salts which they contain. If improper methods of cooking are used, much of these mineral salts are lost. Spinach is an excellent source of iron, which is essential in the blood for carrying oxygen to the cells of the body. but it has been found that one-half of this iron passes into the water in which the spinach is cooked. The same is true of other vegetables, peas and beans losing one-half to two-fifths and potatoes one-fifth of their original iron content.

If the water in which the vegetables are cooked is thrown away, much of the actual food value is lost. Instead, the water may be drained off and saved for creamed soups, while the vegetables may be creamed, buttered or scalloped as desired. After the liquor has been cooked down to about one-fourth of its original amount, it may be used immediately or put in glass jars and kept for one or two days until needed. Two parts of thin white sauce to one part of the vegetable liquor makes a good soup. Bits of vegetables left over may be added to the soup.

White sauce is made by melting one tablespoonful of butter, and adding 1 tablespoonful flour, with which has been mixed ¼ teaspoonful salt and ⅛ teaspoonful of pepper, stirring until butter and flour are thoroly blended. Add slowly 1 cup of milk, stirring until the mixture begins to cook. Continue cooking for five minutes, at which time the sauce should be smooth.

Some of the cream soups that can be made in this way are: Onion, spinach, asparagus, pea, corn, string bean, celery, tomato, cauliflower, watercress and lettuce. A small amount of soda should be added to the asparagus and to the tomato liquid to neutralize the acid contained in either. A slice of onion in the scalding milk adds much to the flavor of most soups. A bit of butter or cream gives a richer flavor.—Mrs. E. L. Kirkpatrick, Tompkins Co., N. Y.

A CLEANING MIXTURE FOR POTS AND PANS

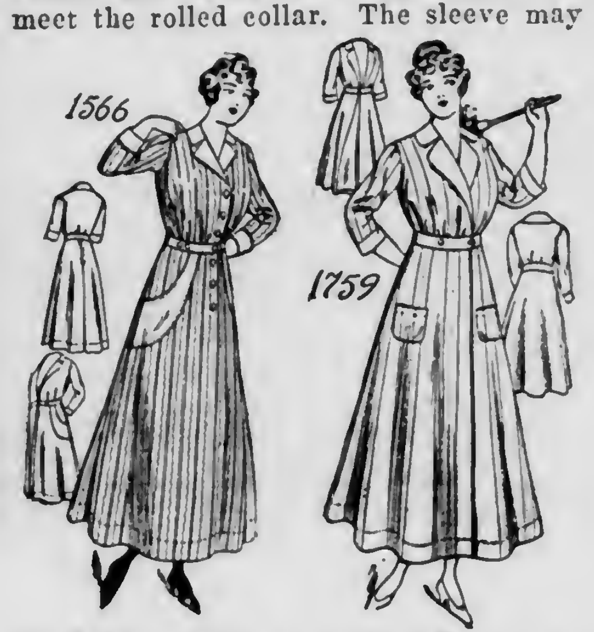
Grease, rust, char, etc., can easily be removed from kitchen utensils by using this homemade remedy: Expose a cake of soap to the air until hard. Then grate fine. Mix with 1 pound of pulverized pumice stone. Put mixture in can with holes punched in lid. Sift a small quantity into pan to be cleaned, add a little water and scour.—A. L. R.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

1566.—Reversible Fronts. Sleeve in Three Lengths. — Striped percale in blue and white, with facings of white linene, is here shown. Easy to slip on and easy to launder. Ample pockets trim the skirt fronts. The revers meet the collar in notches. The sleeve. in wrist length, is trimmed with a cuff facing. In ¾ and elbow length, a neat cuff forms a finish. The pattern is cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 6¾ yards of 36-inch material for a 36-inch size. The skirt measures about 3⅜ yards at the lower edge. Pattern, 10 cents.

1759.—Three-Piece Reversible.—The fronts are faced in reverse style to meet the rolled collar. The sleeve may be finished with a band cuff or loose with a facing. The skirt is a 3-piece model, joined to the waist under a belt and has smart pockets over the fronts. The pattern is cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 7 yards of 36-inch material for a 36-inch size. The skirt measures about 3½ yards at the lower edge. Pattern, 10 cents.



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Markets

PHILADELPHIA PRODUCE.

Philadelphia, Pa., July 3, 1917.

Potatoes are quiet and barely steady at a decline of $2.50 to $3 per barrel from last week's quotations. The potato situation is of extreme interest to near-by growers at this time. The present outlook is none too encouraging .White potatoes from North Carolina are selling at $3.50 to $4.50 per barrel for No. 1 and as low as $1.50 per barrel for second grade stock. Norfolk whites are quoted at $4 to $4.75 for first grades and down to $1.75 for seconds.' Eastern Shore potatoes are arriving freely and are quoted at $4 to $5 per barrel for No. 1 and $2 for No. 2. There was a larger acreage than usua' in Virginia, but unfavorable weather conditions retarded growth, and late reports indicate heavy loss from blight. It is expected that the Eastern Shore crop will be only about 60 percent of normal.

New Jersey potatoes usually follow closely upon the Virginia crop. The New Jersey crop is in good condition, and with favorable weather from now until harvest, there will be a good crop. The price is the all-important question. With high cost of seed, fertilizers, labor etc., it cost the growers from $75 to $80 per acre to plant their crop. To this must be added the cost of cultivation, spraying, harvesting, packages and marketing. Growers must receive at least $100 per acre before there will be any profit for them.

Vegetables.

Onions are selling slowly and show little change. Texas onions are selling at $1.35 to $1.50 per crate. No. 2 grades sell at 90 cents to $1.25. The New Jersey onion crop is reported about normal in acreage and in good grownig condition. Other seasonable vegetables are moving steadily but at moderate prices. Cabbage, Eastern Shore, per bbl.-crate, $1@1.50; do. Norfolk, per bbl.-crate, 50c@$1.50. Celery, Florida, per 10-inch crate, $1@2. Eggplant, Florida ,per box, $2.00@2.75. Peppers, Florida, per box, $2.50@3. Squash, Florida, per box, $1@1.50. Cucumbers, North Carolina, per basket, 75c@$1.25; do. Norfolk, per basket, 75c@$1.25. Beets, Norfolk, per 100 bunches, $1@3. Tomatoes, Florida, per crate, fancy $3.50@4; choice, $2.25@3.50. Tomatoes, Mississippi, per flat crate, $1@1.50.

Supplies of beans and peas were only moderate, but there was little trading and the market ruled weak and generally lower. Marrows, H. P., 1916, choice, $9.40@9.50 per bu .of 60 lb.; mediums, H. P., 1916, choice, $8.75; pea beans, H. P., 1916, choice, $8.75 @8.80; red kidney, H. P., 1916, choice,$7.90 @8; lima; California, choice per 100 lb., $14 @14.25; green peas, $6.75.

Green Fruits.

Apples are in small supply and quiet. Peaches and cantaloupes are more freely offered and easier, but choice stock is in fair request at revised prices. There is a fair movement in other fruits, and values generally are steadily maintained.

Apples, per bbl.—Ben Davis, $4@4.50; Baldwin, $4@5; do. northwestern, per box, $1.50@2.50; strawberries, per qt.—Jersey, 7@20c; Pennsylvania, 12@25c; blackberries, North Carolina, per qt., 10@15c; do. Delaware and Maryland, 5@10c; huckleberries, North Carolina, per qt., 14@18c; cherries, per 8-lb. basket—sour, 40@60c; sweet, 60@75c; plums, Georgia, per carrier, $2@3; do. North Carolina, per carrier, $2@2.50; cantaloupes, Georgia, per crate, $1.75@2.25; do. California, per crate, $2.25@3; peaches, Georgia, per carrier, $2@3; watermelons, southern, per car, $250@450.

Poultry.

Live fowls are generally weak under a light demand. Spring chickens of desirable size and quality sell fairly and values are well sustained. Ducks rule steady.

Fowls as to size and quality, 22@24c; roosters, 17@18c; spring chickens, not Leghorns, plump, yellow skinned, weighing 1½ @2 lb. apiece, 33@36c; smaller sizes, 26@32c; White Leghorns, 23@26c; ducks, Pekin, 19@20c; do. Indian Runner, 17@18c; pigeons, old, per pair, 25@28c; do. young, per pair, 20@22c.

In the dressed poultry market there was a fairly active demand for fine, heavy fowls, prices of which ruled firm under light offerings. Fancy broiling chickens brought outside figures. Ducks were steadily held. Turkeys were in small supply and quiet, with offerings largely of unattractive stock. Squabs sold slowly at former rates.

Fresh-killed, milk-fed dry-picked fowls, 12 to box, fancy selected 26½c; do. weighing 4 lb., and over apiece, 26c; do. weighing 3½ lb. apiece, 24c; fowls, in bbls., fancy dry-picked, weighing 4½ lb. and over apiece, 26½c; do. smaller sizes, 21@24c; old roosters, dry-picked, 18½c; broilers, weighing [illegible] @2 lb. apiece, Jersey, fancy, 35@40c; Virginia, fancy, 32@35c; other near-by, 25@28c per lb.; western, 25@30c. Turkeys,fresh killed, per lb., best here, 23@25c; common, 20@22c; spring ducks, 22@23c; squabs, white, 11 to 12 lb. per doz., $3.85@4.60.

Eggs.

The market rules firm and 30c per case higher on strictly fancy eggs which are very scarce. Ordinary stock, however, is dull and weak to sell.

Near-by firsts, $10.80 per case; do. current receipts, $10.50 per case; western, extra firsts, $10.80 per case; do. firsts, $10.50 per case; fancy selected carefully candled eggs were jobbing at 42@43c per dozen.

Refined Sugar.

The market ruled firm with demand fairly active. McCahan and Pennsylvania Sugar Companies, however, were out of the market and Franklin was willing to take but very few orders. What orders were taken were on a basis of $7.50 for extra fine granulated.

YORK PRODUCE MARKETS.

York, Pa., July 2, 1917.

There was a large attendance and much variety in the amount of produce on sale prices. The outlook so far is not for a good prices. Cabbage, lettuce and beets are selling low considering the season and other prices. The outlook so far is not for a good blackberry and raspberry crop. County potatoes are coming slowly but are dropping rapidly in price. Those dug so far are not half developed and are selling below the $1.50 mark.

Eggs.—32@35c per doz.

Butter.—Country, 34@38c lb.; separator 38@45c lb. Milk, 8c qt.

Poultry.—Hens, 18@20c lb.; springers, 25 @30c lb. Dressed, 75c@$1.50 each.

Vegetables.—Potatoes, 30@45c ½ pk.;old, 45c ½ pk. Lettuce, 3@6c hd. Cabbage, 4@8c hd. Beets, 3@4c bch. Radishes, 5c bch. Onions, 5c bch. Lima beans, 30c qt. Soup beans, 30c qt. Celery, 4@7c a stalk. Peas, 20@30c ½ pk. Beans, 25@30c ¼ pk. Asparagus, 7@9c bch. Rhubarb, 4@7c bch. Turnips, 25@30c ½ pk.

Fruit.—Apples, 30@45c ½ pk. Cherries, sour, 7@10c box; sweet, 12@18c box. Strawberries, 7@10c box. Raspberries, 15c box. Plums, 15c box.

Retail Grain Market.—Wheat, $2.38; corn, $1.85; rye, $1.66; oats, 92c; bran, $1.90 cwt.; middlings, $2.70 cwt.

Wholesale Grain Market.—Wheat, $2.20; corn, $1.55; oats, 82c; rye, $1.60; bran,$34 per ton; middlings, $48 per ton.

LANCASTER PRODUCE.

Lancaster, Pa., July 2, 1917.

Despite a big drop in the prices of potatoes in nearly all of the seaboard cities, local farmers continue to hold their potatoes at from $2.80 to $3.20 per bushel. The general asking price was 35 and 40 cents per half-peck. Eggs sold for 33 and 35c and peas brought 18 and 20c. Strawberries dropped to 8 and 10c.

Butter and Eggs.—Butter, creamery, 45@48c per lb.; do. country, 42@45c; eggs, fresh, 33@35c per doz.

Vegetables and Fruits.—Parsnips, 5c per box; spinach, 5c ½-pk.; turnips, new 20@30c ½-pk.; carrots, 5c per bunch; potatoes, 35@40c ½-pk.; cabbage, 5@10c; eggplant, 10@12c; cauliflower, 15@20c per head; lettuce, 12c; beets, 5c per bunch; rhubarb, 6@10c; celery, 5@10c; squash, 4c each;lima beans, 7@8c pt.; asparagus, 6@8c bunch; new beans, 20c ½-pk.; new peas, 18@20c ½-pk. Strawberries, 8@10c per box; raspberries, 10c per box; apples, 25@35c ½-pk.; cherries, 6@8c qt.

County Butchering.—Bacon, sliced, 40c; do. whole ,30c; dried beef, 12c ½ lb.; sliced ham, 32@40c; do. whole, 28c; tripe, 12c lb.; veal, boiling, 18@20c; do. steak 30c; rib roast 22c; beef, chuck roast, 22c; do. rump, 18c; do. round steak, 24c; do. sirloin, 28@30c; do. porterhouse 30c; do. boiling, 18@20c; lamb chops, 35c; do. leg, 20c; do. shoulder, 30@35c; pork, roast, 30c per lb.

Live and Dressed Poultry. — Chickens, dressed, $1@1.50 each; do. live, $1.50@2 per pair; do. old, live, 18c lb.

Grain Market.—Milling wheat, $2.20 bu.; corn, ear, $1.68 bu.; rye, $1.60@1.65 bu.; timothy hay, $19@20 ton; mixed hay, $18@19 ton; wheat straw, $11@12.

NEW YORK PRODUCE.

New York City, July 2, 1917.

Butter and cheese markets are firm and slightly higher for the higher grades. Lower grades slow. Receipts of eggs are light and prices tend upward. Potatoes weak and unsettled. Most vegetables move freely but prices are moderate. Fruit plentiful in most lines and lower. Dressed poultry sells slowly.

Butter.—Creamery, extra (92 score), per pound, 37½@37¾c; higher score, 38@38¾c; thirds to firsts,33@37½c; state dairy, 33@37½c; ladles, 31@34c.

Cheese. — Fresh colored specials, 23¼c; white, 23@23¼c; undergrades, 10@18c.

Eggs—Fresh gathered extras, 37c; extra firsts, 35½@36c; nearby white, fine to fancy, 40@41c; ordinary to good, 38@39c; browns, 37@39c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 40c lb.; old roosters, 16@18½c; squabs, $2@4 per dozen. Spring ducks, per lb., 21@22c; turkeys, fresh killed, 22@23c.

Vegetables and Greens.—Asparagus, green, $1.25@2 doz. bunches; white, 50c@$1.75. Beans, per basket, 75c@$2.25. Beets, per bbl., $2@2.50. Onions, per crate, 75c@$1.75. Potatoes, Virginia, $1.50@6 per bbl.; Jersey sweets, $1.50@3 per basket. Carrots, $1@3 per bag; lettuce, 25@50c basket; spinach, per bbl., 35@75c; cucumbers, $1@2 crate; radishes, $1 per barrel.

Country Dressed Veals. — Choice, 23c; prime, 21@22c; fair to good, 20@20½c; coarse, heavy, 18@19c; buttermilks, 15½@16c.

PHILADELPHIA LIVESTOCK.

Philadelphia, Pa., July 2, 1917.

Receipts for week ending Saturday evening, June 30, 1917:

	Beef Cattle.	Sheep and Lambs.	Hogs
Total for week	3,700	7,380	6,507
Previous week	3,341	6,746	6,629

Calves.—Total for the week, 2,715; previous week, 2,354.

Beef Cattle.—There was a good inquiry for calves and values were well maintained. Other kinds sold slowly and prices were without important change.

Steers, medium, extras higher	$12.00@13.00
Good to choice	12.50@13.25
Fair to good	11.50@12.50
Bulls	8.00@11.00
Fat cows, per lb	.08@ 9.40
Fair, per lb	.07@ .08
Ordinary, per lb	.05@ .07
Calves, exceptional lots	15.50@16.00
Good to choice	14.00@15.00
Medium	12.00@13.00
Common	9.00@10.00
Tennessee and southerns	9.00@14.00

Sheep and Lambs.—There was a fair demand for sheep of desirable quality and values generally were steadily maintained. Demand for lambs was slow and the market ruled weak and lower, with fairly liberal offerings.

Sheep, wethers, extra	$10.50@11.00
Choice	9.50@10.00
Good	8.50@ 9.00
Medium	6.50@ 7.50
Common	3.00@ 5.00
Ewes, heavy fat	8.50@ 9.00
Lambs, extras	16.50@17.50
Fair to good	15.50@16.50
Common	14.00@15.00

Hogs.—The general market ruled steady, with a fair demand that kept supplies of desirable stock well under control.

Best western	$16.00@16.25
Lights	14.50@15.00
Roughs	13.00@14.00

City Dressed Stock.—There was no activity in the market and prices were without important change.

Steers	.15½@.18½
Heifers	.14 @.17
Cows	.12 @.16
Calves	.21 @.22
Southern and barnyards	.14 @.17
Country dressed	.18 @
Extras	.19 @
Sheep	.22 @
Extras	.23 @
Lambs	.29 @
Extras	.30 @
Hogs	.22 @

PITTSBURGH LIVE STOCK.

Pittsburgh, Pa., July 2, 1917.

Cattle.—The supply on sale Monday was 120 loads compared with 80 loads the week before. With the liberal receipts on sale here and at other markets our market ruled slow and lower, the better grades on the dry fed order sold generally 15@25c per cwt. lower, while the grassy grades, especially on the the light weight and not fat, sold at a decline, generally 50c per cwt. lower, and sales difficult to make at the decline. Heifers in fair supply and sold a little easier. Best fat cows sold generally 10@15c lower, while the medium and bologna grades were off 25@35c per cwt. Bulls in liberal supply and sold at the most decline of the year, a number of sales being made at $1 per cwt. lower and some even more than that. Best fresh cows sold lower, while the springers and medium grades were off even more.

Good to choice	$12.65@12.90
Good, 1300-1400 lb	12.10@12.50
Medium to good, 1200-1300 lb.	11.40@11.85
Tidy, 1050-1150 lb.	11.50@12.00
Fair to medium, 1000-1100 lb.	10.25@11.00
Fair, 900-1000 lb.	9.50@10.00
Common, 700-900 lb.	8.25@ 9.25
Rough, half-fat, 1000-1300 lb.	9.50@11.00
Common to good fat oxen	8.00@10.00
Common to good fat bulls	7.00@10.25
Common to good fat cows	6.25@ 9.50
Heifers, 700-1100 lb	7.00@11.25
Bologna cows	5.00@ 6.50
Fresh cows and springers	25@90

Calves.—Receipts of calves fair and market ruled steady all week.

Veal calves	$11.00@15.50
Heavy and thin calves	6.00@ 9.00

Hogs.—The supply of hogs during the week has been liberal, and with only a fair demand the market ruled slow and lower, with prices generally 25@30c per cwt. lower on all grades.

Prime heavies	$15.60@.....
Heavy mixed	15.50@.....
Prime medium weights	15.50@.....
Best heavy Yorkers	15.40@.....
Light Yorkers	14.75@.....
Good pigs	14.25@14.50
Common to good roughs	13.50@14.00
Stags	12.00@12.75

Sheep and Lambs.—The supply of sheep and lambs during the week has been only fair, and with a good demand the market has ruled active with prices steady all week, the better demand being for better grades, the common and medinm grades not meeting with the demand that the better grades did.

Prime wethers (95 to 100 lb.)	$10.75@11.00
Good mixed	10.00@10.50
Fair mixed ewes and wethers	8.00@ 9.50
Culls and common	4.00@ 6.00
Yearlings	8.00@14.50
Spring lambs	11.00@17.00

PHILADELPHIA HAY AND GRAIN.

Philadelphia, Pa., July 2, 1917.

Baled Hay and Straw.—Receipts, 336 tons of hay and no straw. The market ruled steady, but demand was only moderate. Quotations: Timothy hay, No. 1 large bales, $20.50@21; No. 1, small bales, $20.50@21; No. 2, $17.50 @18.50; No. 3, $15.50@16.50; sample, $11@13. Clover mixed hay, light mixed, $17.50@18.50; No. 1 do., $16.50@17.50; No. 2 do., $14.50@15.50. Straw, No. 1 straight rye, $14 @14.50; No. 2 do., $13@13.50; No. 1 tangled rye, $13@13.50; No. 2 do., $11.50@12; No. 1 wheat straw, $11.50@12; No. 2 do., $10.50@11; No. 1 oat straw, $11.50@12; No. 2 do., $10@10.50.

Bran.—Trade was slow and the market was unchanged.

Car lots, including sacks: Soft winter bran, in 100-lb. sacks, per ton, $35; spring bran, in 100-lb. sacks, per ton, $33.50@34.

Corn.—No. 3 yellow, $1.81½@1.82½; No. 4 yellow, $1.79½@1.80.

Oats.—No. 2 white, 74@74½c; standard white, 73@73½c.

Rye.—No. 2 western, $2.40@2.45.

PITTSBURGH HAY AND GRAIN.

Pittsburgh, Pa., July 2 ,1917.

Hay.—Receipts liberal while there is not very much demand. This is especially true of the better grades. Strange as it may seem poor hay is selling readily at quotations. Do not look for any serious break, think prices will hold as at present, at least until the new hay starts to come in.

No. 1 timothy,$17.75@18.25; No.2 timothy, $15.50@16.50; No. 3 timothy, $14.50@15; No. 1 light mixed, $15.50@16.50; No. 1 clover mixed, $16.00@16.50; No. 2 clover mixed, $14.00@15.00; No. 1 clover, $16.00@16.50; No. 2 clover, $14@15.

Straw.—Straw market dull and easier; receipts exceed the demand. No. 1 oat, $11.50 @11.75; No. 2 oat, $11.25@11.50; No. 1 wheat, $11.50@11.75; No. 2 wheat, $11.00@11.25; No. 1 rye, $12.25@12.75; No. 2 rye, $11.25@11.75.

Ear Corn.—Market quiet, not much demand. No. 2 yellow, $1.83@1.84; No. 3 yellow, $1.79@1.83; No. 2 high mixed, $1.81@1.82; No. 3 mixed, $1.79@1.80.

Oats.—A little better demand takes care of all arrivals at present values. Market in good shape. No. 2 white, 74@74½c; standard, 73@73½c; No. 3 white, 72@72½c; No. 4 white, 71@71½c. Sample (white oats), 69@71c.

NEW YORK HAY AND GRAIN

New York City, July 2, 1917.

Feed.—A somewhat stronger tone is noted in western feeds, and mills are asking higher prices on certain grades. During the past week quite a reduction in the output was made and nominally the indications are for reduced stocks and smaller receipts. The demand at the moment is fair, altho good pastures are reported and this should curtail inquiry to a great extent. City grades are holding up well and mills are also understood to have orders for forward shipments. Spot stocks are not particularly large. Quotations (per ton): Shipment—Western spring in 100-pound sacks, $33.10@33.60; standard middlings, $39.60; flour in 100-pound sacks; $50 to arrive; red dog to arrive, in 100-pound sacks, $53; city feed bulk bran, $33.40; 100-pound sacks, $35; heavy feed in bulk, $37.40; 100-pound sacks, $39; red dog, $54; flour, $53.

Hay and Straw.—Offerings are heavier at all harbor points, demand exceedingly slow and market rules in buyers' favor thruout with outside quotations becoming more and more extreme. This is especially true at 33d street and Brooklyn, where demand is exceedingly limited and concessions are freely made to effect business. At Jersey City hay shed there is a very limited call for goods, but asking prices are nominally somewhat higher than at other points. Rye straw is steady.

Hay—No. 1, $22; No. 2, $19@20; clover, $17@18.

Corn.—No. 2 yellow, $1.86. Last year, 88¾c.

Oats.—No. 2 white, 76¼c. Last year, 46¼c.

Rye.—$2.47. Last year, $1.06.

PHILADELPHIA DAIRY MARKET.

Philadelphia, July 2, 1917.

Butter.—Wholesale trade, as usual on the last day of the week, was quiet, but values were steadily held under moderate offerings. Fancy prints brought top prices, but there was some unattractive stock around, which was dull and weak. Quotations:

Western, fresh, solid-packed creamery, fancy specials, 41c; extra, 39@40; extra firsts, 38c; firsts, 37½c; seconds, 36½c; nearby prints, fancy, 42c; average extra, 40 @41c; firsts, 38@39c; seconds, 36½@37c; special fancy brands of prints jobbing at 45@48c.

Cheese.—Demand was fairly active and the market ruled firm under small supplies. Quotations:

New York, full cream, fancy, new, 24c; specials higher; do. fair to good, new, 23@23½c.

ELGIN BUTTER MARKET.

Elgin, Ill., June 30, 1917.

Butter, 35 tubs at 36½c; 35 tubs unsold.

NEW YORK MILK MARKET.

New York City, July 2, 1917.

The demand for more than a week past has been good. It has not, however, absorbed the entire output of the dairies supplying the city. There is as yet, no difficulty in meeting tho demand. The Borden Farm Products Company, has announced an increase of half a cent a quart for Grades A and B, the new rates being 12½c and 11½c respectively. The reason for the raise to the consumer, it is stated, is the high rate to producer. The League rates for Grade B (barn score 55) for July to the producer in the 20-cent zone are as follows: $2.10 a hundred for 3 percent milk; $2.38 a hundred, or 5.05 cents a quart for 3.8 percent; and $2.85 for 4 percent milk.

The receipts of milk and cream in 40-qt. cans for the week ending June 30 were as follows:

Railroad.	Milk.	Cream.
Erie	46,839	8,617
Susquehanna	6,141	33
West Shore	18,290	2,390
Lackawanna	69,290	4,290
N. Y. Central (long haul) including Rutland	125,523	5,968
N. Y. Central (short haul)	25,590	54
Ontario	41,658	6,588
Lehigh Valley	49,678	2,772
Homer Ramsdell Line	3,890	76
New Haven	6,310	170
Pennsylvania	22,990	710
Other sources	1,470	65
Totals	417,669	26,733

WOOL MARKET.

The Boston Commercial Bulletin of June 30 says that business in the Boston wool market during the past week has been quiet with sales, including all grades, at generally firm prices. The decision of the Federal government to request the noils, waste and shoddy trades to arrange for maximum prices for their respective products has caused no little speculation as to the attitude of the government on wool. Operations in the West have continued steadily at strengthening prices. Manufacturers report little change with early light weight opening for next spring and summer at very good prices. Ohio and Pennsylvania fleeces: Delaine washed, 80@82c; delaine unwashed,73@74c; ⅜-blood combing, 73@74c; ½-blood combing, 70@71c; ½, ⅜ ¼ clothing, 59@61c. Mich. and New York fleeces: Fine unwashed, 57@58c; delaine unwashed, 71@72c; ½-blood unwashed, 69@70c; ⅜-blood unwashed, 72@73c; ½, ⅜, ¼ clothing, 55@56c.

TOBACCO MARKET.

Transplanting is now well near finished and there is a full average acreage, and in a very few weeks it will have assumed a condition of development sufficient to forecast results and at this time some early contracts doubtless will be made and a basic price on the 1917 product will be established. It is a fair prediction that unless measures in the matter of taxation, etc., are too drastic, prices upon tobacco will start upon a level with those of the same time last year and that corresponding advances will follow from time to time until values assume an average equal to those of last winter.—H. E. Tweed.

Dairy Cattle

Purebred Registered
HOLSTEIN CATTLE

To the open minded farmer or dairyman, the results of actual comparative tests of Holsteins with other breeds are striking object lessons of economic investment. The ten largest records of Holstein cows average 1,007 pounds of butterfat and 25,897 pounds of milk in a year. A like number of cows of the nearest competitive breed produced 974 pounds of butterfat, and 18,120 pounds of milk. One good Holstein cow will produce as much as two ordinary cows at a saving in feed and care. There's big money in the big "Black and White" Holsteins.

Send For Free Illustrated Descriptive Booklet

The Holstein-Friesian Association of America
E. L. Houghton, Sec'y Box218, Brattleboro, Vt.

Registered Holstein Bulls For Sale
Grandson of King Segis
Bull No. 10. Born Feb. 2-1917
Sire—"Sir Inka Prilly Segis" No. 90914 is a son of the famous "King Segis" out of a 30-lb. granddaughter of the noted foundation cow "Prilly."
Dam—Saskia Princess Pontiac, record, 18.36 lbs. butter, 376.30 lbs. milk (7 days) as Jr. 2-year-old. He is a splendid individual; about even in color. The first check for $65 gets him.
We have other bulls for sale at various prices. Write for pedigrees and photographs.
WINTERTHUR FARMS, Winterthur, Del.

SPOT FARM
Spot Farm Holsteins $15 to $20
7-8 Holstein heifer calves $15 to $20 each, express paid in lots of five. 40 high grade holstein heifers being bred to 31 lb. bull $50 each. 1 carload of registered cows due in Sept. 1 carload of registered heifers. Registered bulls, and high grade cows.
JOHN C. REAGAN, Tully, N. Y.

Auray Farms
Are offering exceptional bargains in young Purebred Holstein Bull Calves—$100 up. Crated—Delivered—Guaranteed! Bred from a Full List of A. R. O. dams, and sired by our King Lyons Fayne, whose dam is a sister of the World's Record 50 lb. Cow. Largely white and splendid individuals.
Write for charts and particulars to
Irving M. Avery, Mgr., Sparta, N. J.

"NO HORNS"
Naturally Polled bull calves, sired by a son of the WORLD'S RECORD senior 4 year old, 32.8 lb. in 7 days, 133.2 lb. in 30 days and 1294.7 in 365 days, at prices from $100 up. Descriptive circular for stamp.
GEO. E. STEVENSON & SONS, Clarks Summit, Pa.

Holstein Sale Sept. 20
of registered stock. Write for catalog.
BOB SEEDS, BIRMINGHAM, PA.

High Grade Holstein Calves
Either sex, beautifully marked, $20 each. Reg. Holstein cows, heifer and bull calves, shipped anywhere.
F. H. WOOD, BOX A, CORTLAND, N. Y.

Grade Guernseys 2,four years old attractively marked; right in every respect and are producers. One fresh, other due July 1st. $225 will buy them if taken at once.
Amos Rothenberger, R. D. 1, Lansdale, Pa.

Holsteins Registered 4 year old bull that has A. R. O. daughters, 2 registered calves, 2 registered 2-year-old heifers; also 3 grade heifers. Prices right. PLUMLYN FARM, FAIRVIEW VILLAGE, PENNA, (near Norristown)

Reg. Holstein bull calf, born March 31st,1917. Dam, a fine cow, has just made 17 lb. 3 year old record. Sire is son of 23 lb. cow; price right. Inquire of J. B. Winkelblech, Lewisburg, Pa.

Guernsey Bull Calves from 4 to 10 mo. old, sired by a son of Begalore 10101 whose sire was Imp. Mashers Galore 8572. C. A. WRIGHT & SON, CANTON, PA.

Holstein Calves 5 Registered heifers and 7 bulls, from a 30-lb. sire. Write for prices and pedigrees.
WALTER M. CRUTTENDEN, Wilkes-Barre, Pa.

Ayrshires young A.R. cows, bull and heifer calves. Best blood lines, reasonable prices. Inspection invited. Robert Templeton & Son, Ulster, Pa.

Jersey Calves Both sexes. Fine stock of the most noted pedigrees in the world. FRED O. W. RUNK, ALLENTOWN, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Reg. Jerseys Cows, heifers & calves, priced right. CHARLES G. FOSTER, P. O. Box 173, Morristown, Morris Co., N. J.

Registered Holstein bull calves from a ton show bull and heavy milking dams. Best breeding. Write I. V. OTTO, CARLISLE, PENNA.

Poultry

CHICKS White Leghorns, 9c. Barred Rocks and R. I. Reds, $12.75 per 100. Circulars.
E. R. HUMMER & CO., R.D.Y., Frenchtown, N.J.

Eggs 13 $1; 30 $2: Purebred Rocks, Wyandottes, Reds, Hamburgs, Leghorns; 19 varieties. Also Brahmas, Houdans, Orpingtons, Campines. 35 years. Catalog. S. K. MOHR, COOPERSBURG, PA.

THAT LAY AND PAY S. C. W. Leghorn Eggs. $1 setting of 15. M. W. THOMAS, CHESTERTOWN, MD.

S. C. White Leghorns Eggs for hatching. Send for catalog [illegible] [illegible] [illegible] Box 17. [illegible]

Among the Granges

Tioga County, Pa.—Pomona Grange No. 30 met with Eulalia Grange of Westfield, Pa., on June 7-8. Despite the heavy rain for the past few days, a large number of patrons were present for the opening session. The stars and stripes were profusely displayed and patriotic songs featured the meetings.

All were cordially welcomed by Mrs. Homer Crout. The response was ably given by E. J. Hall. "Patriotism", as outlined by P. H. Dewey, embraced not only the man at the front but each at his or her work. All were necessary with their "bit" as this war would be decided by the amount of food this nation could produce. State Deputy E. B. Dorsett talked to the members present on some grange procedures.

At the Fifth Degree session in the evening, Worthy Master J. K. Campbell instructed a class of 14 in the Pomona Degree, after which all adjourned to the Opera House where a very pleasing program was given by the members of Valley Grange of Academy Corners. The Flag Drill by eight young ladies of that grange was exceptionally good.

E. J. Perry, County Farm Agent, spoke on the necessity of each farmer doing his best in the matter of farm production. He also announced that the Farm Bureau had secured a car of buckwheat to be sold at cost—$2 per bushel—to the farmers of this county.

During the Friday morning session the various lecturers present outlined their ways of handling the lecture work in their local granges which was very interesting. In the paper "The Farmer and the Daily Newspaper" by Mrs. Mabel Thomas, the daily paper was severely criticized as misleading the reading public in presenting the ever-increasing cost of living and attributing it to the farmer who, in reality, has received but a small part of the price paid by the consumer, the bulk going to the jobber and speculator. Other interesting papers were read and discussed: "Efficiency in Grange Work", "The Patriotic Farmer", "Pomona's Report to State Grange," and the "Dairymen's League".

The afternoon meeting was devoted principally to the discussions of the resolutions submitted by the Resolution Committee. The one requesting our Representatives to vote against the $50,000,000 Bond Issue and advocating the "pay as you go" plan and another calling on President Wilson to prohibit the making of grains into malt and spirituous liquors during the war were most prominent.

The Pomona Charter was ordered draped for a period of six months in memory of Past Pomona Master James Spencer.

An invitation was accepted from Tioga Valley Grange of Mansfield, Pa., to hold the next sessions of Pomona in their new hall.—J. K. C.

Crawford Co., Pa.—The June meeting of Crawford County Pomona Grange was held with Vernon Grange. Many grangers had thought they would not be able to attend this meeting as the season had been so backward that very few farmers had any corn planted at all, and a great many had not even planted their potatoes or oats, but it rained and rained and the ground was so filled with water that there was no chance to work on the farm, so a large number took advantage of the wet weather and attended Pomona Grange.

The program which had been prepared by the lecturer was closely followed. Among the questions discussed were the following:

Best methods of making dirt roads.

What special line can a woman on a farm take up to add to her income?

Is or is it not lost, the ballot cast for prohibition?

Should anything but dollars and cents be counted as profits on the farm?

The value of live stock to successful farming.

What can we do this year to make our houses more comfortable and beautiful?

What public questions should demand the special attention of our grange?

What is the hardest part of a woman's work on the farm; how can it be made easier?

Has the silo been a benefit to the cattle and a money-maker for the farmer?

The farm garden; what should be found in it?

The house fly.

What can the grange do to better distribute the products of the farm?

Important Acts of the 1917 state legislature as they affect the farmer.

Progress of National Prohibition.

What does it cost to produce a gallon of milk at the present high price of feed?

Should the Government conserve the food supply of the Nation by prohibiting the manufacture of beer or liquor?

Cost of producing field crops.

There was much interest taken in the discussion of these and other questions, and many useful ideas brought out.

There were also a number of recitations and music that added much to the enjoyment of all.

Rev. Garnett of Guy's Mills played and sang music of his own composition which was greatly enjoyed. He also took an active part in the discussion of many of the questions.

Brother Reitze was present and made a report concerning the "Sibley Donation". He stated that this had been followed thru the Courts and that it had been decided in favor of the grange every time and that Erie and Crawford Counties might be able in the near future to have control of the money which should have been theirs for a number of years.

After the business session in the evening there was a class of thirteen members initiated, a literary and musical program, and then a treat for all consisting of oranges, bananas and candy.

The following resolutions were adopted:

A resolution asking the President and Congress to pass a bone-dry prohibitory law to apply, at least, during the period of the war.

Whereas, the work of the Farm Bureau last year was most helpful to the people thruout the county and was endorsed by our last Pomona Grange held at Townville, Pa., therefore be it

Resolved, that we the Pomona Grange now in session with Vernon Grange do respectively ask and urge the County Commissioners to grant an appropriation to carry on this work for this year and that they be as liberal as possible.

The next meeting of Crawford County Pomona Grange will be held with Richmond Grange, at New Richmond, September 5 and 6, 1917.

SEED INSPECTIONS

Bulletin 302 of the New Jersey Experiment Station, at New Brunswick, gives "Results of Seed Inspection 1915-1916." The germination and purity tests of official samples of seed offered for sale in the state are given. Also, an outline of the work of the State Seed Laboratory and directions for sending samples for testing are included. This bulletin will be sent free to any address upon request.

LOOK! BABY CHICKS $9 a 100 up
Live Delivery Guaranteed.
Odds and Ends, $9 a 100. Leghorns, $10 a 100. Barred Rocks, White Rocks, White Wyandottes, Anconas, Black Minorcas, Light Brahmas, Buff Orpingtons, R. I. Reds, $12 a 100. White Orpingtons, $18 a 100. Campines, Black Orpingtons, Speckled Sussex, Buttercups, $20 a 100. 10-day old S. C. White Leghorns, $10 for 50, $90 for 500. Eggs, $7 a 100 up. Catalogue Free, Stamps appreciated.
NABOB HATCHERIES, - - GAMBIER, OHIO.

The "MOHEGANITE" Strain of S. C. White Leghorn
"3 HENS IN 1"
from trapnested ancestry recording 180 to 250 eggs in pullet year. Pound Pullets 90c and $1. Yearlings $2 to $2.50.
Mohegan Farm, Box M, Peekskill, N. Y.

Cut Prices on Cooley Chicks
15,000 ready to ship each week. White Leghorns, $9 per 100. Pure bred R. I. Reds, Barred Rocks, $14 per 100. Safe delivery guaranteed. Other varieties. Write for book.
COOLES FARMS, Frenchtown, N.J.

LOOK! DUCKLINGS
Woodford strain of White Egg Pekin Ducklings. Flock average about 175 eggs per duck per year. All white, no green or tinted eggs, $7 for 25; $13.50 for 50; $26.00 for 100.
NABOB HATCHERIES, - GAMBIER, OHIO.

S. C. W. Leghorns "Tom Barron Strain." The large kind, prolific layers. Breeding stock for sale. 1 1-2 lb. cockerels from imported high record sires, $1.25 each, five or more $1 each. These cockerels will cost you $10 next season. Order from adv. IVYWOOD POULTRY FARM, Box 71 A. Avondale, Chester Co., Pa.

75,000 Chicks for June, July and Aug. delivery at rock bottom prices. S. C. White, Brown & Buff Leghorns, B. P. Rocks, Wyandottes, Reds, Minorcas and Broilers. Safe delivery guaranteed. Catalog free.
KEYSTONE HATCHERY, Dept. 32, Richfield, Pa.

S. C. White Leghorn baby chix, pullets, hatching eggs, 250 egg strain. Long deep bodies, yellow legs & beaks & large red lop-over combs.
A. R. GRAVES, R. D. 2, REXVILLE, N. Y.

CHICKS 15c each, $13 per 100; Silver, White and Columbian Wyandottes, S. C. Red, Ducklings, Rouen, and Runner, 22c each, $20 per 100.
Aldham Poultry Farm, R. 39, Phoenixville, Pa.

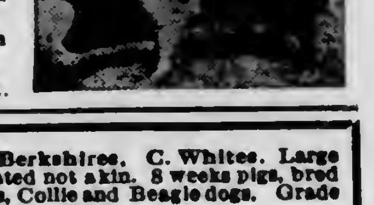
The Business Farmer's Hen for eggs, meat and winter layers. Trapnested White Orpington eggs,chicks and stock. Honest values and square deal guaranteed. STEVENS RELIABLE YARDS, Box P, Lyons, N. Y.

Choice S. C. Red—Barron Leghorn shipped anywhere on approval. Write JUSTA POULTRY FARM, SOUTHAMPTON, N.Y.

Golden or Silver Campines 30 eggs for $2, 24 fertile eggs guaranteed. I. R. TANGER, York Springs, Pa.

Swine

Berkshires
of Size and Quality
The boar, Majestic Mammoth 229590, weight 407 lbs. at 7 months old was bred and grown by us. When you want the best and want them big, write to—
C. H. Carter, Whitguern Farm, West Chester, Pa.



HAMPSHIRES
Bred gilts for fall farrow, pigs any age, free circular. Registered Guernsey Bulls, from $35 up.
Locust Lawn Farm
Bird-In-Hand.
Box 2, Lanc. Co., Pa.

Reg. P. Chinas, Berkshires, C. Whites. Large strain, all ages, mated not akin. 8 weeks pigs, bred sows, service boars, Collie and Beagle dogs. Grade Guernsey calves and poultry.
P. F. HAMILTON, COCHRANVILLE, PA.

LARGE BERKSHIRES AT HIGHWOOD
Letter from DuBois Smith, St. James, L. I. "*The boar arrived in good condition. I am well pleased with him.*" Many of our boars weigh 750 pounds at two years and 1,000 pounds at maturity. One of them sired the sow that sold for $330.00 at Congress sale.
H. C. & H. B. HARPENDING, Box 45,Dundee, N.Y.

SILVER SPRING FARM BERKSHIRES
make satisfied customers. A typey lot of Spring pigs, 8 to 12 wks.old at $12 to $15 reg.& transferred.Satisfaction guaranteed. Write J. P. WINAND, Hampton, Pa.

Mulefoot Hogs oldest breeder in the state. Pedigreed stock for sale.
SAMUEL JOHNS, Wilmington, Ohio. Sec. D.

High Grade Reg. Berkshires for sale. Satisfaction guaranteed or no pay. W. S. JOHNSON, BERWICK, PA.

CHESTER WHITES and POLAND CHINAS All ages. Registered free. Jersey bulls. J. A. BOAK, ROUTE 4, NEWCASTLE, PA.

Reg. O. I. C. Swine Spring pigs and bred gilts. HIDRI VIEW FARM, Mt. BETHEL, PA.

O.I.C.&Chester White Choice spring pigs; brood sows; service boar. Fred Bryan & Son. Star Route, Mansfield, Pa.

O. I. C. Pigs Silver strain from choice sires. Ready to ship,prices reasonable. BRUBAKER BROS., MIFFLINTOWN, PA.

Durocs 3 choice service boars & fall boars. Gilts will be bred for Aug. & Sept. Spring pigs mated not akin. Ira. D. Jackson, R. 10, Van Wert, O.

Large Berkshire Swine Registered High Grade. Prices reasonable. Write HOME FARM, CENTER VALLEY, PA.

Berkshires high class pigs for sale, July, Aug. & Sept.—Masterpiece blood cheap. W. J. Mc CONNELL, OXFORD, PA.

PLEASE mention Pennsylvania Farmer when writing to our advertisers. They want to know and we want them to know that you read it all.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

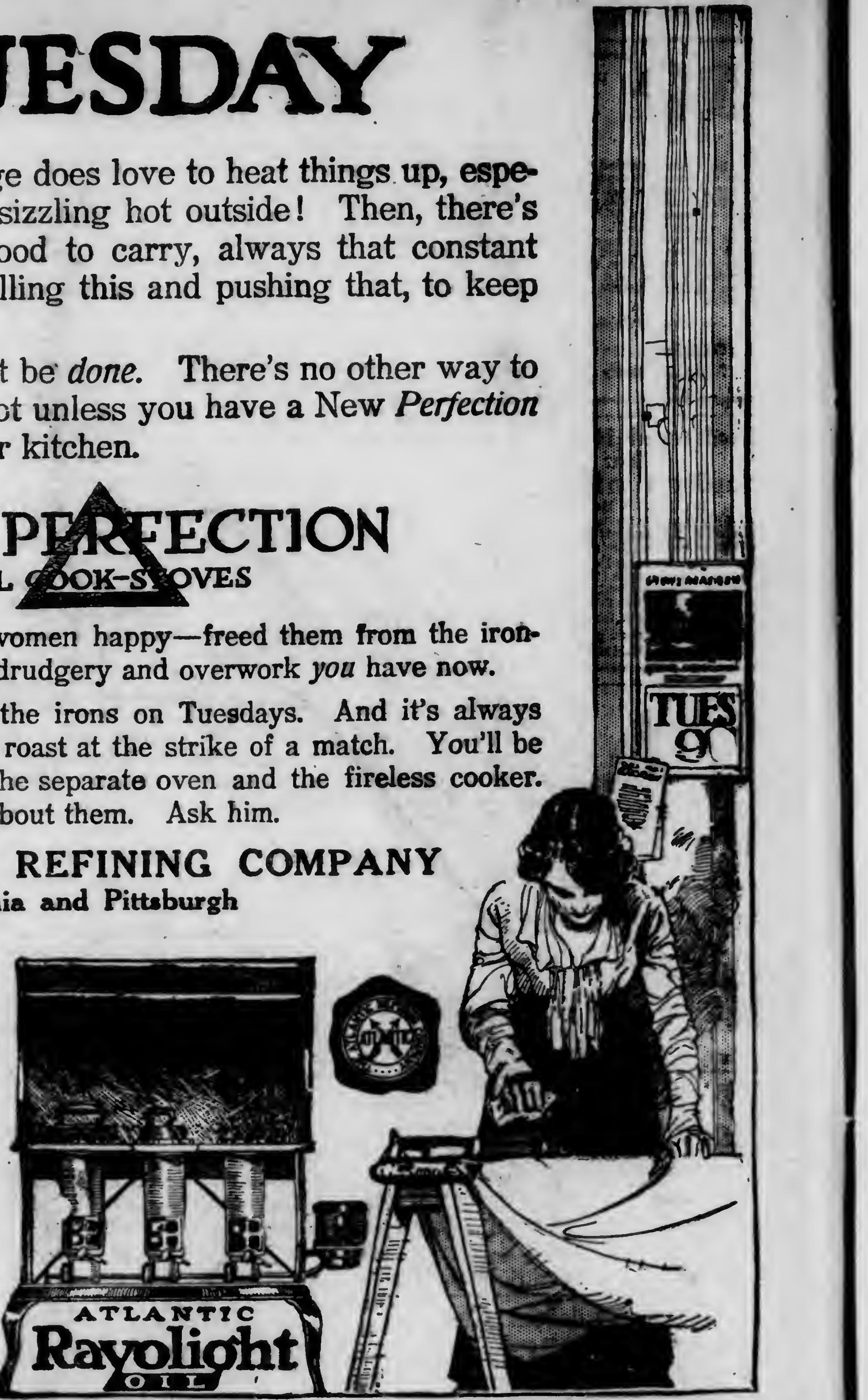
Sloughing Sore on Udder. — Seven years ago my cow cut teat on fence and a sore has frequently suppurated since and sloughs off pieces. N. L. H.—Apply one part oxide zinc, one part powdered alum and two parts boric acid to sore, twice a day. Occasionally paint wound with tincture iodine. It is possible that wound has insufficient drainage, which may prevent healing.

Blistering Ointment—Collar Galls.—I would like to have you tell me what to use as a blistering ointment. J. S., Three Bridges, N. J.—A blistering ointment which is useful for a great many different ailments is made by mixing one part red iodide mercury, one part powdered cantharides and eight parts fresh lard. Of course you understand that the hair should be first clipped off, the parts washed clean with soap and water, then allowed to dry, before the ointment is rubbed on. Rubbing is done with the ends of fingers. The more rubbing, the less blistering ointment required to blister. Usually an application made every ten days or two weeks is often enough. A few days after the blister is applied, apply petrolatum (vaseline) instead of using rancid fat, or salty grease. Mix together four ounces sugar of lead, three ounces sulphate of zinc and four ounces of tannic acid. Dissolve in a gallon of water and apply to sore shoulders, three times a day.

Chronic Cough.—I have a ten-year-old horse suffering from a dry hacking cough. He eats well and does not seem to lose any flesh. I am anxious to know what to do for this, as he is a very valuable horse. G. S., Lederack, Pa.—Apply one part tincture iodine and three parts camphorated oil to throat, daily. Also give one ounce glyco heroin at a dose in feed or drinking water, three times a day.

Barren Cows. — What can I do to make my three-year-old heifers and older cows come in heat? Only one of my cows has been bred this year. Last year I had two that did not freshen. I might add that all my stock is well fed and appears to be healthy. C. S., Genesee, N. Y.—From the brief history of your herd, I am inclined to believe that your heifers and cows are suffering from contagious abortion infection. The results from either medical or mechanical treatment for this ailment are far from satisfactory. As you know, a certain percentage of cows become barren and others are shy breeders. From the fact that your cows do not come in heat, I judge that they are perhaps hopelessly barren. Some results will be obtained by giving each cow one dram ground nux vomica, two drams ground capsicum, two drams ground ginger and one ounce ground gentian at a dose in feed, twice a day. A careful examination should be made of your herd by a competent veterinarian who might perhaps be able to tell the cause of your cows failing to come in heat. A forced service sometimes has the effect of stimulating the generative organs and bringing on heat, and if the ovaries are in a cystic condition, manipulation by hand thru rectum and crushing the cysts might have a good effect. The warm weather will also have a good effect; besides, if they are stabled, a run on grass would help them.

Weak Heart—Tongue Loller. — For the past two years our six-year-old horse has panted very much during hot weather whenever worked hard. He seems to be in good health and perspires freely, especially when exerted much. I would also like to know how to prevent horse from tongue lolling. Have tried bit made for this kind of case. C. E. W., Huntington, Pa. — He should not be driven fast or made to haul heavy load if weather is hot. Give him ½ dram ground nux vomica at dose in feed, three times daily. Your harness maker can tell you what mechanical appliances there are made to overcome lolling vice. Allow bit to hang low in mouth. A jaw strap properly applied might correct the trouble.



TUESDAY

HOW the old range does love to heat things up, especially when it's sizzling hot outside! Then, there's always the coal or wood to carry, always that constant raking and poking, pulling this and pushing that, to keep the fire going.

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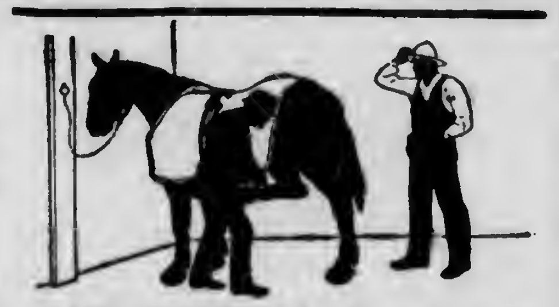

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY

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Preacher Jordan Feeds Many Steers

How Pennsylvania's Largest Cattle Feeder Grew Into the Business

By HUGH FERGUS,

BUTLER CO., PA.

"Folks, if I blow up, come to the funeral anyhow and say at least that he tried to help blow us up, too."

This was one of the expressions made by the Reverend Jordan, of Lawrence Co., Pa., on June 19th, to a crowd of five thousand people (mostly neighbors and friends) that had been invited to his farm to see 250 head of steers that were receiving the finishing touches in the feed lot. Perhaps it would be well to go back a few years and lead up to our main story.

A good many years ago, I believe it was in the time of our great grandfathers, the first Jordans came over the mountains from southeastern Pennsylvania and took up a farm of about 300 acres near Volant, in Lawrence County. Passing over these years, the farm was handed down from father to son until it reached the present generation. For a time it looked as tho the farm would have to pass out of the family because the last son thought he would prefer the ministry to farming. He took a course at a theological seminary and began preaching the gospel. However, Father Jordan left Son Jordan the farm anyhow, and the Son is still preaching the gospel, but it is the gospel of steer feeding and better farming.

When Father Jordan left the farm to the present Jordan, the Reverend found a farm that had been worked pretty much the same as the other farms in this section, viz., general farming on the spots that were not too wet, with hay being grown as long as the land would produce hay, and keeping a few head of live stock. From all of this a rather meager income was derived. To put it in the words of the present owner: "When I got out of the seminary I was in debt $1,060, and Father left me this farm worth about $1,000. Most of the stuff grown on it was frogs and white top grass. At first I preached and the farming was done as a matter of sentiment. Then I began to change from sentiment to sincerity and that was really where the start for a better farm was made. Our farm now produces about seven times as much as when it was growing the frogs and white top grass."

The first improvement was made in the form of ditching and liming, with the addition of commercial fertilizers. Still the yields were only fair and not what Mr. Jordan thought they could be. He studied the matter over and decided to try steers. This was seven years ago. The first two years he purchased and fed about a carload each year. These were fed under the mow part of the wing of his barn where the straw is stored. This was at a time when experimenting in the use of the open shed was just beginning at our experiment stations, so of course these first steers were kept as warm as possible and the ventilation was not of the best. These first steers received a ration that is still in use in many parts of Pennsylvania, viz., hay, corn stover and broken ear corn.

The third year, 40 steer calves were bought. These were wintered largely on roughage, pastured during the summer and finished during the fourth year of his steer feeding operations. The fourth year, 58 head were bought. This was in 1913. That was the year of his first silo, a 16x46-foot hollow tile one. Up to this time the roughages had been hay and stover with corn supplemented with a little oil meal for grain. Notice how he was learning. There was one or more steps each year in advance of the previous year: just like a youngster climbing from one grade to the other in school.

FEW OF THE 5000 VISITORS, JORDAN FEEDER'S DAY.

In 1914 he was ready for the fourth grade in steer feeding. The number was the same as in the previous year, but in his buying operations Preacher Jordan had been to the large stock markets. These trips naturally brought him in contact with feeders of steers from all over the country. At these meetings these men and himself would talk of the thing in which they were most interested. This time he met Captain Smith of Iowa; now on the Federal Land Bank Board, then one of the wisest steer feeders in the country. Captain Smith told Preacher Jordan about the open shed system. He also told him about the use of cottonseed meal as a supplement to corn and his roughages. So Mr. Jordan went home and built an open shed for these 58 head. This year he also began the use of cottonseed meal, both of course with more satisfactory results than ever before.

The year 1915 did not bring a new advance in any way except in the number of steers. This time it was 85 head.

His seventh year, or 1916, brought the most rapid advance of any in his steer-feeding operations. This year he decided to go in deep. From a friend in Texas he learned that he could buy feeder steers in most any size or number if he would come to that state instead of going to the stock markets for them. So he made preparations for his venture by enlarging his sheds to their present capacity and erecting an additional silo, 18x48 feet and again of hollow tile type. This gave him room for 250 head and a silage capacity of over 500 tons.

This lot of 250 head was bought in Hardeman Co., Texas, at a cost of 8¼ cents per pound. The freight brought the cost delivered on the farm up to 8⅜ cents per pound. This lot averaged, when bought, about 400 pounds each. Here was another advance over previous years. Mr. Jordan said his previous experience showed him that he could feed three calves on the same amount of feed that would not quite feed two larger ones. This lot arrived at the farm on November 14 and was started immediately on the feed that Mr. Jordan thought would produce the most economical and profitable gains. Both on account of the size of the undertaking and the uniqueness of it to this section of the state, the venture has been watched with keen interest.

In the buying of these last steers, Preacher Jordan made use of some of his previous experience also. These show almost without exception Hereford color and type. Their ancestors were described as being "long-horned, slab-sided, tick-bitten

(Continued on page 11.)

JORDAN BARN AND FEEDING SHEDS.

A FEW OF THE FAT STEERS.

HOW THE FARMERS CAME.

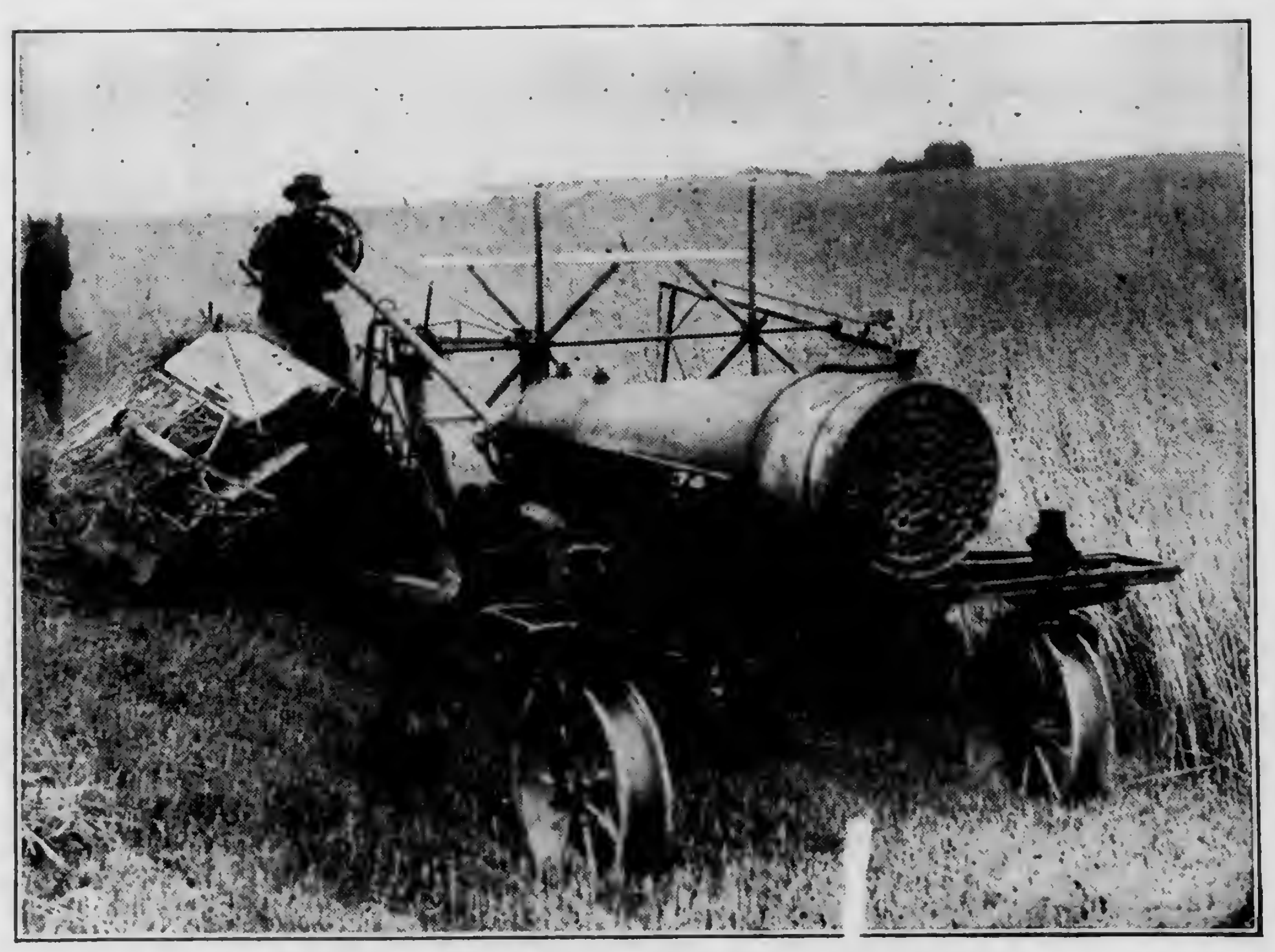
Good Farming Means Weed Destruction

Their Nature and Methods of Control Discussed

In order to combat weeds successfully, it is necessary to first know the nature of the plant in regard to length of life and method of reproduction and spreading.

The annuals and biennials are, of course, much more easy to get rid of than the perennials. It may be well to recall that annuals come up from seed, bear flowers and seeds, and die within one year. Biennials (two-year plants) come up from seed, the first year producing leaves only, while the second year the flowers and seed develop, after which the plant dies. Perennials spring up from the roots each year, and the parent stalk lives on, producing seed and starting new colonies year after year, in most cases. Sometimes where conditions are not favorable for the production of seed, they propagate and spread principally by the roots.

It is readily seen that it is vitally necessary for the farmer to know the habits of the weed if he wishes to economize time and effort in its eradication. The perennials and biennials alike propagate from seeds and the same measures to destroy them can be employed with both. All that is necessary is to prevent the formation of seed. This can be done by cultivation of cultivated crops, fallow plowing, cutting, or spraying with chemicals. If the weeds are scattered, cutting or pulling them up by the roots is probably the best method of getting rid of them. Where they grow thickly or in large patches, cultivation of crops, rotation of crops or spraying with chemicals is the most practicable. Dragging or harrowing the surface of the ground produces better results when the weeds are young and tender than when they become larger and stronger. The cultivation of the ground not only kills the weeds but benefits the crops so that the expense of destroying the weeds is lessened when the value to the crop is considered.



ADAPTING THE TRACTOR TO THE HARVEST WORK.

Rotation of crops also successfully combats the weeds, and a four-year rotation is probably the best. Short rotations do not prove satisfactory in the control of the weeds. Few people have any idea of the enormous amount of seed which some weeds are capable of producing. By actual count, a single well-developed plant of the tumble weed has been found to produce 6,000,000 seeds. With some weeds, notably wild mustard, chemical sprays have been found to very effective. Iron sulphate or common salt are cheap and very good for the purpose. A 20 percent solution of the iron sulphate, or a 35 percent solution of the salt, is sufficient and can be very easily made by putting either 100 pounds of the iron sulphate or 125 pounds of the salt in a vinegar barrel and filling with water. One barrel of the solution will be needed for an acre, and should be applied in the form of a fine spray when the dew is off.

Tho only effective method of dealing with perennials is by destroying the roots as well as preventing the formation of seeds. Naturally it requires much more vigorous methods and is much more difficult. The Canada thistle is a typical plant of this class, and methods used for its eradication will be successful with most other perennial weeds. This weed has tufts of rootlets at intervals on the horizontal root, and from these roots new plants are sent up at intervals as the main root extends its length thru the ground. Fallow plowing or cultivation without a crop are among the best methods of eradicating this most noxious weed. The depth of the plowing is most important and should be regulated by the depth at which the horizontal roots are growing. In meadows and pastures the roots will not be far below the surface, probably not more than two or three inches below the ground. But in cultivated ground they go much deeper, and have been found at a depth of three feet where the ground was loose and porous. This is exceptional, however, and in most cases it will be possible to plow deep enough to bring them to the surface.

After plowing, the field should be cultivated frequently in order to prevent leaf growth; for, as is well known, the leaves are the lungs of the plant, and if they are destroyed the plant dies. The following spring the field should be again plowed just deep enough to bring to the surface any roots that may not have been destroyed the previous year. During the second year the ground should be plowed several times more and thoroly cultivated between the plowings to prevent leaf growth. The next year it is a good plan to plant corn in check rows in the field, to allow cultivation both ways. This may not be necessary after the radical treatment that has been given, but will insure the utter destruction of weeds.

Smother crops are sometimes used with considerable success but cannot be relied on in all soils as can the former method. Where there are small patches of the weeds, they may be cut close to the ground and covered with tar paper or any heavy building paper, which should be weighted down with earth or stones. On level and comparatively small areas this method has been used with success. About two months is sufficient to kill the weeds but it is well to leave it on until there is no possibility of the plants surviving. Canada thistles are often treated by cutting off close to the ground and applying a handful of salt or pouring on a small quantity of kerosene or gasoline. These latter methods are only practicable where there are only a few scattered plants or very small patches, as otherwise it would be too tedious and costly.

Whatever methods may be employed, they should be supplemented by endeavoring to secure the co-operation of the other farmers in the same locality; for in the matter of weeds, if in no other, surely no farmer ''liveth to himself.''

The number of weeds could no doubt be materially decreased on most farms by exercising more care in cleaning seed before sowing. Fanning mills are now made which makes it possible to separate almost any kind of weed seed from grain. Many of our worst weed pests grow and ripen their seed with the grain and are thus resowed year after year. Another act of caution is to always buy the best seed even at a higher price.—E. J. J.

A Tenant Farmer Who is an Optimist

How He Makes it Pay for Himself and the Owner

It is a serious matter for a tenant farmer to lose 1100 bushels of wheat out of a possible 2000 bushel crop. It is still more serious when the same tenant has the misfortune to lose four or five cows and horses a year. N. L. Burkholder, of Franklin County, Pennsylvania, has been having this kind of hard luck for several years now, yet he is succeeding in spite of his trouble and on a rented farm at that.

Mr. Burkholder rents a 169-acre farm and works it nearly all himself. His farm lays well and is naturally fertile, of a limestone type. The buildings are good but are not large enough to hold the crops Mr. Burkholder will be raising in a few years. Altogether, it is a good farm and is worked by a good farmer.

Normally, Mr. Burkholder follows the four-year rotation of corn, wheat and clover. He feeds as much livestock as he can, puts all the manure back on the clover land for corn and uses fertilizer on his wheat.

Mr. Burkholder rents his farm on the share system. The owner pays half of the expenses and gets half of the crops. The tenant furnishes the stock and machinery, paying half and receiving half. He is given free rein by the owner and is allowed to run the farm according to his own good judgment. He farms the rented farm just the same he would farm it if it were his own. The fertility of the soil receives special attention by Mr. Burkholder and he is really trying to make the land richer instead of impoverishing it as is quite often the tenant custom. He figures that as the land becomes richer, his income will become greater even tho only half of the total income is his, and that it will pay him as well as the landlord to increase the fertility of the soil.

Mr. Burkholder has his own laws and formulas regarding the soil. He sums them up briefly as follows:

''I think that the ideal way of farming is to return a little more to your soil than you take out. If you do that, by and by you'll have your soil much more productive and then you're all right.

''If you keep taking everything out of a cupboard and put nothing back in, its bound to become as empty as old Mother Hubbard's cupboard. If you keep putting things into the cupboard you are going to get it stuffed full sooner or later. It is the same way with the soil.''

Mr. Burkholder is improving his farm by the use of clover, manure and fertilizer. In plain English that is all there is to it, but back of it stands the fact that he is a tenant farmer who in spite of a lot of misfortune still keeps steadily improving the soil, because he believes that it will pay in the end.

The rotation that Mr. Burkholder uses isn't altogether satisfactory to him because of the fly loss that the two years of wheat cause. Naturally, in a rotation that includes two years of wheat, the fly gets a chance to multiply and do greater damage than in a rotation where it is starved out of a field for two or three years. Mr. Burkholder is determined to overcome the fly if he has to change his rotation altogether and sow his wheat late in October.

One of the reasons why the fly is so prevalent in Franklin County is that most of the wheat is seeded earlier than the safe date recommended by the United States Department of Agriculture for southeastern Pennsylvania. Many farmers, however, are following the government's recommendation and seeding their wheat late, applying an extra quantity of good fertilizer. The fertilizer enables the wheat to make a quick heavy growth in the fall, the same as if it had been seeded early. Without the fertilizer, much of the late sown wheat would either winter-kill or make such a poor crop that chances might as well be taken on the fly and seeding done earlier. Of course, it takes a fertilizer with plenty of ammonia in it to do the work. Acid phosphate alone will not produce the quick growth desired—as many farmers of Mr. Burkholder's neighborhood have learned by experience.

Mr. Burkholder has made careful plans for combatting the fly. He now sows his wheat even later than usual. He makes a heavier seeding and uses as much as 300 pounds of high grade fertilizer per acre. It is almost certain that such a plan will reduce the fly loss to an insignificant point as compared with the past few years.—R. E. Allen.

BY THE WAY

Some of us have wondered from the first whether the hue and cry about the scarcity of food and the imminent danger of starvation which we have been hearing during the past few months was justified or not. It was recommended that every square foot of soil be planted. Everybody must set to and raise something. Seeds were bought recklessly by thousands of amateurs without knowledge of what to plant or how to plant, the result being that the real farmers and gardeners had to pay two prices in many instances. What's the result? While it is too soon to make estimates, yet, so far as returns have come in from crops harvested, the results are encouraging. Prices of truck are, in most instances, too low to be profitable.

Farmers in the great potato growing section of New Jersey told me that it cost $75 to $85 per acre last spring to plant potatoes. There must be added to this the cost of cultivating, spraying, digging, packages and freight. The question they are asking themselves and each other is, ''Where are we going to come out if the price keeps on going down?'' The high prices of last year caused an increase of fifteen percent in the acreage. They are just now badly in need of rain to finish growth. So, figuring on a normal yield, we can see where the crops planted and grown so far will not make plutocrats out of farmers this year.

Just how far food control measures may affect farmers' prices can not now be told. The howl is for cheaper food but the business which produces it must not be injured. There is a field for suspicion and investigation lying between the farm and the city kitchen. Will the food control board look into it? Maybe so, but when one scans the make-up of the National Defense Board and finds there the names of men heading the biggest manufacturing and transportation business, and the heads of labor organizations, but no farmers, we may well wonder if the business of production may not appeal to this board as a field for regulation and control rather than the business of hauling, handling and delivering.

I have no desire to anticipate the activities of the food control board, but farmers should be alert and be ready to protest against any move which would be unfair. The law of supply and demand has ruled the farmers' prices thru all the lean years of the past, and now when this law is making immense profits in other lines of business it is not just to discriminate against farming. Patriotism should be encouraged at all times, but it should be exhibited by the representatives of the firms which made a total of over $790,000,000 war profits last year as well as by the farmer in the furrow.

Milking 30 cows twice a day; plowing 22 acres for corn and planting it, five acres in potatoes; harvesting six acres of alfalfa, 12 acres of timothy and 10 acres of wheat seems like a big pile of work for one man and a 14-year-old boy to get thru with, doesn't it? But that is what has been and is being done on one farm I know.

How do they do it?

The answer is hard work, good management and the use of machinery. They have a milking machine, tractor, hay-loader and a power hay-hoist, besides all the usual implements found on a farm. The man acknowledges that it is more than they would do if satisfactory help could be secured, which was impossible this year. How much of this work could they accomplish if they had no other tools and machinery than existed when George Washington farmed?

NEAT HOME-MADE CONCRETE DRINKING FOUNTAIN.

Speaking of farm machinery recalls again the price-control business. If the price of farm products should be arbitrarily set, it would be only fair to limit the cost of tools and machinery the farmer buys. Iron and steel have advanced tremendously during the past two years and the cost of the raw material which the manufacturers of farm machinery use makes it necessary for them to advance the price of machinery accordingly. The United States Steel Corporation reports an increase in its net earnings during the past two years of $248,034,962, and an increase in the market value of its stock of $278,533,096. The Bethlehem Steel Corporation has made like profits. It looks as if there might be opportunity to exercise a little authority in price control in other things than farm products.—Uncle Amos.

WATCHING THE HORSE PERFORM AT WEST CHESTER FAIR.

Comments and Queries

(This department is open to all of our subscribers. Queries and short comments are invited. Queries will be answered by best available authorities.)

Division of Crop

A, B and C are in partnership and wish to know how they can divide up on crops. They will grow 17 acres of corn and 4 acres of oats. A owns the ground. B furnishes 2½ tons of fertilizer at $31 per ton and 150 tons of manure at $1.50 per ton, making a total outlay for B of $302.50. C furnishes teams and help to do all work, hauling, cultivating, cutting, husking and putting crops in barn. Will you kindly suggest a plan of division that will be satisfactory to each party?—W. P., Burlington Co., New Jersey.

We will not guarantee to suggest a settlement that shall be satisfactory to each, as that is rather a large order. Conditions not stated fully would influence an equitable settlement. If their arrangement is to continue for but one year, A should be satisfied with a very small proportion of the returns. He will have the benefits of $302.50 worth of manure and fertilizer which will continue its benefits in his soil for the next two or three years. If he gives the use of the land but the one year, he should be satisfied with not more than 10 percent of the crop returns. With the fertilization given and good care, the oats might yield 40 bushels per acre, giving 160 bushels for the field. Under same conditions, corn might average 80 bushels per acre, or 1,360 bushels for the 17-acre field. These are liberal estimates based upon good growing conditions. With a price of $1 per bushel for corn and 60 cents per bushel for oats, there would be a cash return of $1,360 for corn and $96 for oats, or a total of $1,456 for the two crops.

Giving A 10 percent of the return would yield him $145. Dividing the remainder equally would give B $655.50 on his $302.50 investment and give C $655.50 for work and equipment. We believe this would be an equitable division under the conditions stated.

Protecting Stored Grain from Weevil

''I want to build a bin 10x20 feet of smooth boards and place over the top some mosquito netting to keep out the grain weevil and other insects; then by using a shovel, move the grain from end to end, keeping it stirred. The meshes of the netting are 14 to the inch and it is claimed by the makers to keep out all insects but I do not feel sure of this. I would also like to store some oats. Is this hard to do?''—G. A. S., Dorchester Co., Md.

There are a number of weevils which infest stored grains. Some of them infest the heads of grain before being brought into the barn and hatch out there. Others cannot fly but remain in the barns and bins and do all their work and breeding indoors. For the latter, the bins should be sprayed with kerosene emulsion or some similar insecticide before storing the grain.

It is safest, in order to combat any of the weevils, to treat the stored grain with carbon bisulphide. The threshed grain must be placed in a tight bin and, after stroking the grain to make the surface level, saucers containing small quantities of carbon bisulphide set about over the surface. This work must be done quickly as its fumes are deadly. Lights must also be kept away as it is highly inflammable. The whole should then be covered with blankets, bags, carpets, etc., so as to prevent the escape of the gas. The gas is heavier than air and settles thru the grain, killing all insect life. It should not be disturbed for several hours. Any grain may be thus treated. If it is thought necessary to use the mosquito netting, the size mentioned will exclude them. The weevil damage is increasing and it will pay to use precautionary measures in these days of high prices.

ATLAS DISTILLERS' GRAINS have come to be as much a part of the progressive dairy and cattle man's feed supply as corn, oats, etc., etc. He has learned that he can sell a part of his grain and buy an equal amount of ATLAS with the money. He has learned that ATLAS contains 2 to 3 times as much protein and fat as straight grains and that his cattle will bring a much greater profit feeding ATLAS than on any other feed. This has been made possible by our increased production of ATLAS. These grains can be had in any quantities desired at any time. Write us for full details as to analysis, price, etc.

ATLAS distiller's GRAINS

ATLAS FEED and MILLING CO.
PEORIA, ILLINOIS

The Cow Knows—but SHE can't talk. Ask the Dealer.

SO-BOS-SO TRADE KILFLY MARK

SPRAY YOUR COWS WITH SO-BOS-SO KILFLY

And increase their milk production. Make life easy for the cow and she will make milking easy for you. SO-BOS-SO KILFLY is guaranteed to keep flies away from cattle and horses. Will not gum the hair nor harm the hide. Flies are unhealthy—get rid of them. Spray twice a day with SO-BOS-SO KILFLY and note the difference in the milk yield.

A gallon of SO-BOS-SO KILFLY will spray 200 cows—or one cow 200 times. Used twice a day on cattle and horses, it works a transformation that you will wonder at.

You should not be without SO-BOS-SO KILFLY on the farm. Ask your dealer to-day.

THE H. E. ALLEN MFG. CO., INC.
CARTHAGE, N.Y., U.S.A.

MR. FARMER
Have You a Silo?
If not let us help you build the one
Silo Without a Single Fault
The Woolford Tecktonius

One-Piece clear Douglas Fir Staves. Continuous Redwood Hinged Doors. Hoop connections equipped with the famous Tecktonius straight-pull spring lugs which positively keep the silo air-tight under all conditions. Equipment complete in every detail. Don't delay but write today for descriptive literature and prices.

Factory—Darby, Pa.
Address all inquiries to
G. Woolford Wood Tank Mfg. Co., 1429 Chestnut St., Phila., Pa.

Insure Against Tuberculosis

65% of tuberculosis is contracted through drinking water. One diseased cow may cause you to lose your entire herd. Write for booklet.
Livestock Drinking Fountain Co.
Box L Lynchburg, Virginia

Mention Pennsylvania Farmer when writing to advertisers.

The Dairy

CITY MILK CONTESTS

Cheching Up on Milk Delivered

Much interest on the part of both the milk producer and the consumer in cities in the quality of the local milk supply can be aroused by the city milk contest where "surprise" samples are taken. Such a city milk contest was first held in Baltimore by the Dairy Division of the U. S. Department of Agriculture in 1911. It has been adopted since in many other cities, especially on the Pacific coast. The city milk contest advertises those dairies which obtain high scores as to the quality of their milk, and results in the bettering of the supply for the entire city. Frequently prizes are given by boards of trade or like organizations to those dairymen who win the highest scores in such contests.

The method of conducting such a city milk contest is illustrated by regulations in test recently held in Greenville, South Carolina. Milk samples were collected in the streets from each dealer each month for a year. One dairy which delivered 100,000 quarts of milk during the year was awarded an average score of 95. Another, which delivered 150,000 quarts, averaged a score of 88.5. A third, which delivered 30,000 quarts, had an average of 81. The women's club of the city presented the owner of each of the three dairies with a loving cup in recognition of the excellent quality of the milk furnished to consumers. In that contest the grading of the milk was determined by means of the milk score card, which allows 35 points for bacteria, 25 for flavor and odor, 10 for visible dirt, 10 for fat, 10 for solids not fat, 5 for temperature, and 5 for the appearance of bottle and cap, making a total of 100 points.

Dosoris Park Lily 233783, with two Consecutive Records of 900 lbs. Butter Fat.

By collecting samples from the delivery wagons and dealers, the quality of milk actually delivered to the consumers is determined. The publication of the standing of each dealer in the contest gives the consumer a definite indication as to the quality of milk which his dealer is supplying. For business reasons, dealers become anxious to produce milk of high quality. Such a contest is valuable in raising the standard of milk supplied to the entire city.

CHANGE IN JERSEY REGISTRATION FEES

The amendments to the By-Laws submitted to the members of the American Jersey Cattle Club for a vote have resulted in the adoption of a new schedule of fees covering the registration of domestic-bred Jerseys. The new fees will go into effect on September 17, 1917, and will be as follows:

Females one year old or under: To members, $1 each; to non-members, $2 each.

Females over one year old and not more than two: To members, $2 each; to non-members, $3 each.

Females over two years old: To members or non members, $10 each.

Males one year old or under: To members, $2 each; to non-members, $3 each.

Males over one year old and not more than two: To members, $3 each; to non-members, $5 each.

Males over two years old: To members or non-members, $10 each.

A CONTINUOUS JERSEY RECORD

Dosoris Park Lily 233783 now shares with Sophie 19th of Hood Farm the distinction of having made two consecutive years' records of over 900 pounds of butter fat. Her first record was completed in 1915, when she set the mark of Class AA production, in addition to winning the gold medal for the best Jersey record made in that year. "Lily" started on her second test 95 days after completion of her first record. The exact figures of both tests are given here:

Milk lbs.	Fat lbs.	Age
16,728.1	957.43	5 yrs. 11 mos.
15,506.6	911.92	7 yrs. 2 mos.

These figures, combined, give her a total production record of 1,869.35 lbs. of butter fat, or 2,336.7 pounds of 80 percent butter in two successive lactations. Dosoris Park Lily was sired by Dosoris Park Golden Lad 76986, and is out of Moy's Romp 169818. She was bred, owned and tested by the Estate of Chas. Pratt, Nassau Co., N. Y.

PRESERVE BUTTER FOR WINTER USE

Butter can be laid down during the summer season to give a satisfactory supply for winter use. With the present scarcity of food products and the prospect of high prices next winter, it is more important than ever that farmers and others should look forward to their winter supplies.

Farmers who are making butter for winter's supply should use sweet cream of good quality, pasteurizing it by keeping the container in hot water for 30 minutes at a temperature of 145 degrees Fahrenheit. The cream should be stirred frequently during the process. It should then be cooled to approximately 50 degrees F. It is important that the butter should be made from sweet cream, rather than from sour cream, since the keeping quality of sweet-cream butter is better.

This cream should be churned in the usual way and the butter may be packed solid in stone jars or it may be made into pound prints and packed in jars, either with or without the regular parchment paper wrappers. The butter should then be completely covered with a salt solution sufficiently strong to float an egg. A large plate, or a header made of some odorless wood, should be placed on the butter and then clean stones or bricks may be used to weight it.

Persons who are not making their own butter can secure satisfactory results by getting fresh butter made from sweet cream and packing it as described. Such butter may be obtained of near-by creameries in wholesale lots. The best time to buy is from the middle of May to the middle of July. The butter should contain the usual amount of salt. Care should be taken to pack it in stone jars which have been thoroly scalded and are free from taint or odors, and the butter must be kept covered with the brine solution. Butter packed this way and stored in a cool cellar should keep all winter.—Cornell Letter.

In the Milk Market

Cows Being Sold

Dr. Clyde L. King, chairman of the Tri-State Milk Commission, recently addressed a questionnaire to agents in all the milk-producing counties of Pennsylvania, Delaware and Maryland, asking information on feed and labor costs and sales of dairy cows. In preliminary report of questionnaire, Dr. King has pointed out the following:

Replies were received from 25 counties in Pennsylvania—embracing all the dairy sections from 9 counties in Maryland and 3 counties in Delaware. Some startling replies were received regarding the increased cost of supplies which has led to a marked tendency among the dairymen in all three states to go out of business. Reports from the counties of the three states indicate that in the majority of the large milk-producing counties the farmers are rapidly selling their stock, particularly in the counties upon which Philadelphia is most dependent for its milk supply.

Two counties in Pennsylvania and one in Maryland are the only ones that report any increase in milk cows. These are pasturing counties. Four counties in Pennsylvania and two in Maryland report "no change" in the number of cows, but these counties are not important dairy counties. The thirteen counties in Pennsylvania, three in Maryland and two in Delaware reporting decreases are typical dairy counties. So far as percents were given, they range from 10 to 20 percent. The agents in fourteen counties in Pennsylvania and four in Maryland report that only old cows or poor producers are being sold, altho one-third of these report that many farmers in these counties are planning to sell their herds in the autumn.

So far as present beef prices are being availed of to get rid of "boarders", the tendency may be regarded as a wholesome one. But the agents of eleven dairy counties in Pennsylvania, two in Maryland and three in Delaware, report a tendency to sell all ages, including calves.

Numerous factors are mentioned by Doctor King as contributing to such sales, including increase in feed and labor costs; difficulty and uncertainty of getting competent labor; rising prices for other money crops; rapid rise in the price of beef cows; steadily growing demand of the large milk condensaries.

"Many herds have been sold entirely," Doctor King says, "and in too many instances the cow bringing the most money has been sold, regardless of the effect on the future of the dairy. The sales of herds mean more or less of a permanent decrease in dairies, as cows can be sold quickly, but to convince farmers to start dairies again after discouragement will take several years. All will agree that it is best for the consumer to meet actual costs now, rather than pay heavy prices later because of a scarcity of milk."

Regarding increased feed and labor costs, as reported in the responses since October 1, 1916, there has been an increase of around 50 percent in the cost of feed, and around 25 percent in the cost of labor. Some of the feeds, such as bran, have increased 100 percent.

"As the commission pointed out in its first report," Dr. King says, "milk, compared with other animal foods, is relatively a cheap food. The testimony of experts now clearly establishes the fact that at prevailing prices for other animal products milk would be a cheap food at 18 cents a quart. Moreover, milk has not increased in price at all proportionately with other foods. The dairy cow is the first of all sources of animal food to be preserved.

"The cost of milk to the consumer must ultimately reflect the added costs to the producer. The commission believes that stable prices to the consumer for the future can be secured in large part on the side of production thru the national stabilizing of the prices of feeds, by the efforts of Mr. Hoover and by the co-operation of national, state and local bodies in assuring to the farmer competent labor at fair prices.

"So far as economical distribution costs are concerned, the Commission believes that this can best be assured thru the national development of zone monopolies for dealers, to the end that useless duplication may be avoided, and in order that the economies in large-scale distribution, pointed out in the Commission's first report, may be reflected to the consumer.

"The Commission believes, however, that this tendency toward large-scale distribution, now going on rapidly because of natural forces, should be allowed to take its own development, hastened as it will be by the rising costs of the distributor. The status of a public utility will in time be thus legally fulfilled, and the state can then use its power to regulate prices for milk distribution where virtual monopolies exist, as it now does for gas, electricity, water and other public utilities."

Milk Producers Meet

According to Secretary R. W. Balderston of the Inter-State Milk Producers' Association, the largest and most enthusiastic meeting of dairymen yet attended by him in the interests of the Association, was held at West Chester, Pa., June 26. The meeting was called by the West Chester local branch, but many farmers were present also from Delaware and Montgomery counties. Mr. Albert Hoopes, the president of the local branch, presided. Mr. Thomas Smedley of Willistown was elected Secretary of the local branch to succeed I. R. Comfort, resigned. Officers of the Inter-State Milk Producer's Association spoke in the order named: Pres. Frank P. Willits, of Delaware County; Vice-President H. D. Allabach of Montgomery County, and Secretary Robert W. Balderston of Kennett Square. After these gentlemen had discussed in detail the history and workings of the organization, and presented in a most convincing manner the seriousness of the present dairy situation, Mr. E. B. Dorsett, of Tioga County, lecturer of the Board of Farm Advisers of the State Board of Agriculture, gave a strong address in which he impressed very forcibly upon the men present the necessity of joining this organization and backing up their demands in a way that can only be done by this form of concerted action. He, too, dwelt at some length upon the forecast of the dairy industry for the future, stating that unless the farmers "did their bit" by getting together to reclaim and re-establish the dairy industry, the physical welfare of this and future generations would be seriously impaired.

Numerous instances were referred to by the several speakers, which evidenced beyond any question that hundreds and even thousands of dairy cattle are today being sacrificed on the butcher's block for beef because present prices for dairy feeds and labor make it impossible for the best dairy farmers, with two and three decades of experience back of them, to produce milk even at cost under the prices which they are receiving for their product. The most serious effects of the present rapid depletion of our dairy herds will not be felt immediately, but how about the future meat and milk supply of our country when, practically speaking, whole regions will be stripped of their breeding cows? The farmer is the man who should have a keen realization of such a probable serious consequence, and he will only be doing his patriotic duty when he insists that the public learn the facts. The seriousness and far-reaching significance of this state of affairs is not, and cannot be, realized by the common public as it ought to be, especially at this critical period in the history of the world's food supply. And until the public can and will be educated to a point where they will realize the dairyman's position and give him the support that his industry deserves, the farmers all over the country must get back of an organization like the Inter-State Milk Producers' Association and force their demands just as do organizations which represent practically every other form of industry today.

Mr. Balderston explained very fully the association contract, and after the meeting adjourned the farmers responded most encouragingly by coming forward and signing these contracts, which at the same time indicated their willingness to take a definite stand of action to secure the demands to which they are very justly entitled. About seventy-five new members were added to the Association, and over 1,500 cows were signed up under the contract. The officers of the organization expressed their great satisfaction at the manner in which the farmers responded to action in their own behalf and virtually to the salvation of the dairy industry.—Daniel S. Adams.

Downingtown Meeting

A large and enthusiastic meeting of dairymen was held at Downingtown, Chester Co., Pa., June 28. About 50 dairymen were added to the membership of the Inter-state Milk Producers' Association. The meeting was addressed by Mr. E. B. Dorsett, of the State Department of Agriculture, and Secretary Balderston, of the Association. There was keen interest and a general desire for co-operation in protecting the dairy industry.

Mowing pasture lands when the weeds are in full bloom is an excellent practice, as it prevents the formation of weed seeds. Most weeds, even of the perennial type, can gradually be brought under control if they are not allowed to produce seed for several years in succession.

20 MULE TEAM PURE BORAX FOR HOUSEHOLD USE

To Keep Your Milk Cans Scientifically Clean Use

20 Mule Team Borax. Whether you ship whole milk or deliver at the creamery, it will pay you to keep your milk cans sweet and germ proof. This Borax will do it. It is a harmless antiseptic and cleanser. Use it when you clean your separator. In both laundry and kitchen you will find constant use for

20 MULE TEAM BORAX

It makes the clothes white—saves scrubbing—helps the soap do its best work. Sprinkle some in the water when you wash your dishes—it cuts the grease and puts a shine on your china and glass ware. In the bath tub, 20 Mule Team Borax cleanses the pores, refreshes the skin and kills perspiration odors.

20 Mule Team Borax Soap Chips

Soap in chip form. Saves you soap cutting. Blended in the right proportions, one part Borax to three parts *pure* soap. *Not* a substitute for Borax but a time, labor and money saver that will pay you to use every wash day. See the picture of the famous 20 Mules on each of the above packages. Sold by all dealers.

The President Says:

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Conserve and Increase Your Forage Crops

Turn under part of your pasture and plant it to saleable crops. Feed your stock this winter cheaper, easier and more profitably with a few acres of corn cut into ensilage with a Kalamazoo Ensilage Cutter and stored in a Kalamazoo Silo. Stop wasting land that should be used for money crops. This year, you have a chance to make *big profits.*

Kalamazoo LIFE-TIME-SILOS

are built to meet the exacting farmer's needs. Best in design, material and workmanship. Have every desirable feature a silo should have and embody the "know how" acquired through more than twenty years experience in silo building.

Wood Stave Silos—Your choice of four of the best time-defying woods. Kalamazoo Silos are manufactured complete ready to set up. Quickly and easily erected by inexperienced home labor. All Kalamazoo silos are made with Galvanized Steel Door Frames and continuous doors, forming a safe ladder entire height of silo.

Write today for our free descriptive booklet. If interested in an Ensilage Cutter, ask for Kalamazoo Cutter catalog. *Easy payments,* if you wish.

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A MILKER THAT MILKS WITHOUT STRIPPING
Guaranteed and sold at a reasonable price.
Buckwalter Supply Co.
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Save $ilo Money!
5 ft. more capacity for same money with Globe extention roof. Window FREE. Also big cash and early shipment discounts. A
GLOBE SILO—now!
means big money saved. Write for details and prices QUICK to GLOBE SILO CO.
5-15 Willow St., Sidney, N. Y.

Herdsman Wanted herd of 30 to 40 cows. One who understands business will have entire charge. Address Box 425, Du Bois, Pa.

For Sale-Milking Machine Two cow unit. Automatic vacuum & natural air pressure type in first class condition. E. H. Heighoe, 50 S. Arlington, E. Orange, N. J.

150 Bushels of Corn Will Pay for an

INDIANA SILO

Suppose you are growing only 15 acres of corn, averaging 50 bushels per acre. The yield of three acres *at present prices* will pay for an Indiana Silo *at present prices.*

Put the corn from the second three acres into this Indiana Silo. It will feed ten head of cattle next winter instead of five. This will *double* your production of beef and dairy produce *at no additional feeding cost* and it will leave you the yield of the remaining nine acres to sell at record prices. And your silo completely paid for and clear!

The larger sized Indiana Silo you buy, the smaller will be the relative cost.

Never before has the *corn-cost* of a silo been so small as today. Never has the need for Indiana Silos been so great or the supply so uncertain. Order today while we can assure you of delivery. *Address nearest office.*

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The Railroads Are Getting Busier Every Day. Conditions For Delivery Will Be Worse Later

Get Your Lime Now

Use WARNER'S

"LIMOID"

(Pure "Cedar Hollow" Hydrated Lime)

For Acid Soils

Ask Your Dealer

CHARLES WARNER COMPANY, Wilm'n., Del., Phila., New York

A REAL POTATO DIGGER

Not a mere Plow with a rake attachment, but a low priced, scientific Implement. Cleans the trash from the dirt and the dirt from the potatoes as well as machines that cost five times as much. Steel beam with high arch to prevent clogging. Polished high carbon steel shovel. Adjustable wheels regulate depth and "pitch" exactly. Will not bruise potatoes. ¶ Don't buy a Drill, Cultivator, Harrow, Lime Spreader, Potato Digger, or any other piece of Farm Machinery before writing for our special catalog. State what machine you want and give your dealer's name.

Heach & Dromgold Company
York, Pa.
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Many are making $15.00 and up per day, canning Fruit and Vegetables for market, neighbors and home use with a

"FAVORITE" HOME CANNER

Made better, last longer, no waste, gives best results, uses less fuel, easy to operate. Prices, $2.30 and up. We furnish cans and labels. Write for FREE BOOKLET.

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Will Pay Some Man in Your Section

Will this man be you? Why not? Thousands are making Big Money with

Mount Gilead Hydraulic Cider and Grape Juice Presses

We can show you how $1200 a year can be made in the cider business. Sizes 10 to 400 barrels daily. Hand or power. All power presses have steel beams and sills. We make cider evaporators, apple-butter cookers, vinegar generators, filters, etc. Fully guaranteed. Write to-day for catalog.

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Buckeye State Dryer & Canner. Patent Applied For

CORN FRUIT & VEGETABLE DRYER STEAM COOKER & CANNING Fruit & Vegetables IN Earthen GLASS JARS or TIN CANS

Dryers $3 up. New Combination Dryer & Canner, small size, 18 in. square, holds 16 1-qt. jars, has 700 square inches of drying surface. Canning the new way, by U. S. Government experts, furnished with each combination. Postal for illustrated circulars.

McCLURE STOVE CO., WOOSTER, OHIO.

DAISY FLY KILLER placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 6 sent express prepaid for $1

HAROLD SOMERS, 150 DeKalb Avenue, Brooklyn, N.Y.

What will raise bumper crops of WINTER WHEAT at least cost?

BERG'S ANIMAL

Bone & Meat Fertilizer

Enriches the soil Increases the profits

Ample proportion of Ammonia (4 per cent) produces better root growth; makes available the potash already in your soil. And big content (17 per cent) of Phosphoric Acid in that form which is available when most needed—when the wheat is heading next spring.

Ask for booklet "B"

THE BERG COMPANY
Established 1873
Ontario St. near Delaware River
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DEALERS AND AGENTS WANTED
In unoccupied territory. Get our proposition "B"

25% More Miles per Gallon

With gasoline selling around 30c a gallon, it should interest you to know that tires that are insufficiently inflated need 25% more gasoline to pull them along the road than tires that are inflated to the right pressure. With a

Schrader Universal Tire Pressure Gauge

you can keep your tires inflated to the right pressure.

Price in U. S. A. One Dollar

Ask your dealer to show you the SCHRADER UNIVERSAL PUMP CONNECTION also. It makes tire-pumping and tire-testing easy.

A. SCHRADER'S SON, Inc.
801 Atlantic Ave.,
Brooklyn, N.Y.

Horticulture

CARE OF BUSH FRUITS

Raspberries and Blackberries

Raspberries and blackberries need winter protection in many parts of the North where low temperatures and drying winds prevail, especially where the snow covering is light. Certain varieties need protection, while others endure the same conditions without injury. Experience will indicate which varieties need this.

When the snowfall is heavy thruout the winter, it may cover the canes sufficiently to afford all the protection that is needed. Sometimes, however, in order to be adequately protected by the snow, the canes should be bent over. They may be held in this position by placing a few clods of earth on the tips; or sometimes forked sticks are used to pin them to the ground. In other cases rails or poles are placed across the canes to keep them in a reclining position. The tips, which are the most tender part of the canes, should be nearest the ground and be best protected.

A SPRING-TOOTH HARROW SPREAD FOR USE IN ORCHARD.

Usually no pruning is given either the raspberry or blackberry just before or during the winter. When the canes are to be protected with soil, however, all the weaker canes, as well as stronger ones not needed for the crop the following season, should be removed. This thinning out of the canes will reduce the cost of covering. In the spring if the canes of the raspberry are long and are not to be supported by stakes or a trellis, the ends should be cut back. If cut back to a hight of 3 feet the canes should be able to support their crop, keeping the berries out of the dirt. Sometimes when the canes are slender it will be necessary to cut them back to 2½ feet in length. The side branches of the blackberries are usually pruned back in early spring. The length at which the lateral branches should be left depends on the habit of the variety. In some sections and with some varieties no pruning at this time is necessary, and experience in each locality must be the guide as to this.

Winter Protection of Strawberries

In all except the extreme southern and western districts the autumn or early winter is the season in which the strawberry fields should be covered with a mulch, partly to protect the plants from the continual freezing and thawing which occurs in many sections, partly to conserve moisture and keep down weeds during the following spring and during the fruiting season, and partly to keep the berries from contact with the soil when they ripen. This mulch may consist of some kind of straw or hay or stable manure containing a large proportion of straw, but it should be free from weed seed. Wheat, rye, oat, and buckwheat straw, long leaf pine needles, prairie hay, marsh hay, salt marsh hay and other materials are frequently used for this purpose. The mulch should be placed on the berry field after the ground freezes and before it is covered with snow. If a rain follows the spreading of the mulch, less trouble will be experienced from scattering by the wind. The mulch should be spread evenly over the whole field. If available, sufficient material to make the depth of the mulch when it settles from 2 to 3 inches should be used.

Stable manure, tho frequently used, is not always satisfactory. In some sections it causes a vigorous leaf growth the following spring and actually lessens the yield of berries. If either the stable manure or the straw contains weed seed, it may infest the berry field with weeds to an extent which decreases the yield and causes much expense in cleaning. When stable manure is applied, the solid portions as far as possible should be put between the rows and that part containing more straw placed over the row. In the spring before the plants start growth, sufficient straw should be removed from the rows to allow the plants to grow thru the mulch. This straw may be thrown into the space between the rows. Where the ground is weedy, it will often be necessary to rake the mulch upon the rows of plants and cultivate the field. The mulch is then returned to the middles between the rows of plants to be left until after the picking season.—Dept. News Letter.

Timely Fruit Notes

By Dr. J. P. STEWART

Tobacco Extracts at Home

"A number of our fruit growers have requested information concerning the process of manufacturing nicotine extract. If you have any information touching upon this subject we should be pleased to have you supply us with the same. One of our large growers feels that the present price of this commercial product is too high and he is wondering whether he could not arrange to prepare his own mixture." C. S. A., Berks Co., Pa.

Replying to this inquiry, I would say that it is impossible for any one to make as concentrated a nicotine extract at home as the commercial article. It is possible, however, to make extracts at home which will be entirely satisfactory if properly diluted. The essential facts governing the dilution of commercial extracts and the general requirements for home preparation of similar but weaker material are as follows:

For spraying purposes, any nicotine extract should be diluted so as to produce a spray carrying at least .05 of one percent of nicotine, in all cases except for the grape leaf-hopper, in which case a spray of half this strength is apparently enough. To find the rate of dilution required to produce these sprays, divide the percent of nicotine in the concentrated preparation by the percent desired in the final spray. In a 40 percent nicotine preparation, for example, the dilution needed to produce a .05 percent spray is the quotient of .05 divided into 40, or 800. The dilution rate is therefore 1 to 800 or a pint to 100 gallons of spray.

To make the extracts at home, a good supply of stobacco stems, sweepings or damaged tobacco should be available at a reasonable cost, or a small amount of tobacco should be grown at home for the purpose. The stems also have considerable value as a fertilizer after their nicotine has been removed, as they usually run from 5 to 8 percent potash, and from 3 to 5 percent of phosphoric acid.

The amount of tobacco needed to make a given volume of spray of the desired strength naturally depends on the nicotine content of the material available. This unfortunately is quite variable, being distinctly higher in the dark varieties, such as Narrow-Leaf Orinoco and Burley, than in the bright or flue-cured types. If the approximate nicotine content is obtainable, however, the proper weights of material needed to make 50 gallons of spray may be found by consulting the following table. This table is produced by calculation from Table V and context in Va. Bul. 208. The present table is based on an assumed extraction of 70 percent of the nicotine present, which is rather less than the rate often obtained in the Virginia experiments. This accounts for the occasional minor divergences between the present and the Virginia table. The moderate excess of nicotine, which may be obtained by the present figures, is in no way objectionable, however.

Approximate Weights of Tobacco Needed to Make 50 Gallons of Spray of the Strengths Indicated

Nicotine Content of Stems or Sweepings	Lbs. of Tobacco needed to make 50 gals. of Spray	
	Nicotine	Nicotine
%	.05%	.06%*
0.5	60 lbs.	72 lbs.
1.0	30	36
1.5	20	24
2.0	15	18
2.5	12	14
3.0	10	12
3.5	8½	10
4.0	7½	9
4.5	6⅔	8
5.0	6	7
5.5	5½	6½
6.0	5	6

*This corresponds to a dilution of about 1 to 660 of a 40 percent nicotine preparation, while the preceding spray corresponds to the more common 1 to 800 rate.

As indicated by the Virginia experiments, all that is necessary in making the extracts is to soak the tobacco for 24 hours with frequent stirring or agitation. The solids are then strained out and the solution is brought up to the required volume. Where the whole plants are available, use 25 pounds of the dried plants in 50 gallons of water, and then dilute the solution obtained, with its own volume of water before using. The yield of nicotine obtained by the soaking method is about the same as that obtained by cooking and the cost is much less. With average tobacco stems at $20 a ton, the cost of a .05 percent nicotine spray is calculated to be about 1 cent a gallon, omitting the labor and the fertilizer value of the stems, while that of the standard commercial sulphates, with 40 percent nicotine, runs about 1.3 cents.

The nicotine sprays can be used in combination with lime-sulphur, lead arsenate, or bordeaux without any appreciable reduction in the value of any of the materials used. If used with water only, soap should be added at the rate of 1 or 2 pounds in 50 gallons of spray to increase the spreading and wetting qualities of the solution. The soap should not be used in conjunction with lead arsenate, however, on account of the solvent action of its soda or potash base, and it is not needed when the lime-sulphur or bordeaux is used.

THINNING APPLES PAYS

Besides improving the condition of the trees, thinning apples increases the production of fruit of high quality and aids in making orchard profits greater. The surplus and imperfect specimens are removed during June and early July.

Unthinned apple trees often overbear, and are weakened thereby. Branches are likely to be broken by a heavy crop. Thinning tends to overcome these conditions and also to make fruit-bearing more uniform in the case of varieties that give a heavy crop one year and a light one the year following.

Thinned fruit is larger and of superior quality and appearance. These remaining apples thus get the food and moisture that otherwise would have gone to imperfect and superfluous specimens. Picking and packing are later simplified because of the smaller percentage of fruit of second grade and culls.

Unthinned trees yielded apples selling for an average of $11.96 per tree, while trees on which thinning was practiced returned an average of $14.12, in tests conducted by the Ohio Experiment Station in orchards in the southeastern part of the state. This increase of nearly 19 percent in the selling price was due mainly to the greater proportion of first-grade fruit after thinning.

These trees were thinned when the fruits were about as large as marbles. June and early July is the common time. Apples were thinned to eight inches apart. In some cases only about one-fifth of the apples were removed, and in others nearly one-half.

Some orchardists thin apples with only the hand, while others prefer grape shears. A second inspection should be made when the apples are half-grown to remove imperfect specimens.

CULTIVATE, RAIN OR NOT

The old practice of many gardeners regarding cultivation was that of stiring the soil after each rain; therefore, if rains were not frequent, cultivation was not frequent. Today many gardeners hold that this is not the correct idea. Whether it rains or not, the soil needs attention to cultivation, and it is the belief of many gardeners that to cultivate every 5 to 8 days pays. Even if the soil is loose on top, a moving of this top soil will more effectually check evaporation of moisture and at the same time it will stop loss of moisture thru any weeds that have started to develop, by killing these weeds. It wil also insure a more perfect mulch because by going over the same ground the second time, it is much more thoro than the first time.

The more intense the cropping, the more important the closer attention to cultivation.—A. E. Wilkinson.

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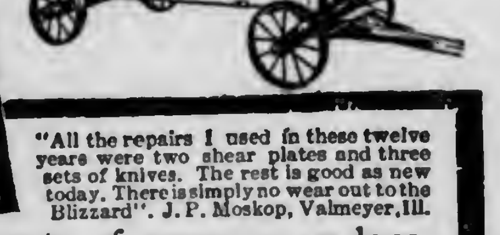

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FEEDING CATTLE

The article on first page of this issue reads like an account of a western cattle feeder. Buying 400-pound steers at 8¾ cents a pound and feeding them to weigh 850 pounds and giving them sufficient finish to bring 13 cents per pound means a nice margin to pay for feed and care. These figures would give a margin of $18,875 on 250 head of cattle. And this is a Pennsylvania operation; not a ranch or corn belt business. What Mr. Jordan has done in Lawrence County, many others can do in other counties of the East. But a few valuable hints may well be taken from Mr. Jordan's experience. He started on a small scale. He succeeded with a few cattle before he attempted the larger numbers. He studied details with each lot. He learned how to handle good young cattle and he learned how to feed most economically, and then he held to the details learned when he launched out on the broader lines.

* * *

PREPARE FOR WHEAT

The wheat crop to be seeded this fall will be one of the most important that our farmers have ever grown. Wheat and its food products will be the greatest need of the warring countries next year, whether the war continues or not. There is no need to speculate on price; no one can predict what it may be. The safest guess is that it will be high enough to pay for the best possible methods of growing; and the biggest profit is always in the extra bushels grown per acre. Preparation of the seed bed, fertilization, cleaning of seed and final sowing of the grain are all of greater importance this year than ever before. Some preparation can be made now. Order fertilizers early and order with neighbors if possible, to take full carloads. Then move from the shipping station promptly and save on storage space. Co-operation with neighbors and dealers in handling will help everybody in getting prompt shipments.

* * *

FARM LOANS

The Federal Farm Loan Board reports approximately $12,000,000 of first mortgage loans approved up to July 1. There were 230 farm loan associations formed previous to July 1 with an average membership of 18. The average amount asked for by each association was $50,000, making the average loan to each member about $2,500. Most of the loans were made for 36 years. With the interest rate at 5 percent, this time will permit the borrower to retire the principal in allotted time by making annual payments at the rate of 6 percent.

The distribution of the loans is of interest in view of the claim that cheaper farm credits were not sought and not wanted in the eastern and older-settled states. The reports to July 1 show that Texas leads all states in loans taken, with a total of $1,248,473. Oklahoma is second with $1,143,275. The states of high land values rank high; California coming third, and Kansas fourth on the list. Pennsylvania ranks thirtieth in the list with $63,031 in approved loans. New York has taken $31,850; New Jersey, $24,800. Maryland and Delaware are not listed.

* * *

SUMMER MILK PRICES

Both the Inter-State Milk Producers' Association and the Dairymen's League announced summer schedules of milk prices last week. The Inter-State schedule is for July and August only, with the basic price in the first freight zone seven cents per quart for 4 percent milk. The Dairymen's League announced prices for July, August and September. Its basic price for 4 percent milk in the first zone is about 6.1 cents per quart for July and 7 cents for August and September. The Inter-State prices are uniformly higher for July and about the same as the League prices for August, with September prices open to readjustment in case of the former.

The wisdom of the short-term price adjustment has been fully demonstrated. Winter prices were established for a term of months, but frequent changes in price of feed, labor supplies, and practically every item entering into the production and distribution of milk made those prices practically impossible before the scheduled term had expired. Any just price must be based upon production costs and with constant price changes experienced during the past year it is practically impossible to forecast such costs for a period over sixty days.

The new prices should check the sale of dairy cows for a time at least. The selling of good dairy cows at this time means a serious loss to the future food supply of the country, and is likely to prove serious to the individual dairymen. The farmer that can hang on to his cows now will win in the end.

* * *

KEEP UP THE AGITATION

We hope Pennsylvania Farmer readers who are concerned about having better public schools will not let their interest in war, politics or anything else lead them to neglect the agitation for school improvement. To make any perceptible impression upon the public mind, it takes the same kind of persistency possessed by the Israelites when teaching the law to their children, "Precept upon precept, precept upon precept; line upon line, line upon line; here a little and there a little". Every opportunity should be embraced to urge needed improvements.

We promised some time ago to agitate in favor of the election of some women to the school boards. Several wrote in approval but it will require personal effort in the community in order to accomplish anything. Every rural organization should make a special order of business to discuss the matter and press it at nominations. We have, as yet, not had one word in opposition, and we do not believe we will. However, if any one thinks he or she can give a sufficient reason why women should not hold that position, send it in and we will gladly publish it. In the meantime, agitate the subject in your own neighborhood and try to smoke out any opposition that may exist and see what it looks like.

* * *

SELLING EGGS AND POULTRY

A city lawyer who has always been something of a poultry enthusiast, having for a great many years kept some at his suburban home, said recently that he believed very few men who have kept poultry over a number of years, simply for the sale of meat and eggs, have made any net profit—except the farmer. When we note the number of commercial poultry plants which have ceased to operate after a few years' trial, we believe the lawyer is pretty close to the truth of the matter. This does not apply to those cases in which farmers have gradually increased their flocks to several hundreds until it is the specialty and leading business, and to which they devote the entire farm, but refers to the concentrated, highly specialized efforts in which men have endeavored to employ factory methods.

Whether it is wholly true or not, it is a fact that the greater part of the world's poultry and eggs comes from the farm. They are gathered up by various means—many of the ways being slow and devious—and finally reach the market. Some are shipped by large producers, personally and speedily to the market, and such eggs bring to the producers the greatest net profit. There are too many spoiled eggs, and the number of commissions are too great for the producers of the bulk of the eggs to make the profit they should make. Some localities, notably in Canada and New York, have formed co-operative poultry and egg associations for the purpose of marketing the poultry and eggs and have found them very profitable—receiving a much larger average price for their products.

The formation of such associations is a very simple matter as it requires only a proper community spirit and the active interest of a few leading spirits in the community. Information as to how to proceed will be published in Pennsylvania Farmer next week.

* * *

MARKET CONDITIONS

Altho many lines of produce are plentiful and prices are tending downward, the public harks back to market prices of last year and two years ago. It is a strange mental habit the public has of feeling that prices of agricultural products should remain stationary, however much other products may fluctuate. It will be a calamity for agriculture, hence to the whole county, if prices reach the level of last year and year before since the cost of production has been so much greater. Some kinds of truck have already been plowed under in a few localities because it would not pay to harvest them. A city paper in commenting upon this criticises farmers for not availing themselves of labor registered at city bureaus for farm work. Investigation shows that much of the labor is green and inexperienced and yet expects current wages.

The increased production and the practice of greater economy on the part of the housewife have both helped to lower prices, especially in many lines of truck and fruit. Northern potato growers have been on the anxious bench the past few days because prices have been sliding down so fast. The crop from the south, however, may not be so large as expected, owing to early frosts, blight, bugs, etc. The U. S. Bureau of markets for week ending July 2 says that the shipments of potatoes for the week were 1,000 cars less than the week before, and even less than for the corresponding week last year.

Peaches, cantaloupes, watermelons, asparagus, early cabbage and onions are more abundant than at this time last year and the prices are going down, altho higher in some lines than a year ago. Southern peaches are arriving in greater quantities. The same is true of tomatoes and the prices of both are tending downward.

* * *

FOOD CONTROL

The food control bills now before Congress have been amended and revised and re-revised until it is impossible to predict what may result. The fight in Congress is largely a division of opinion on the wisdom of granting arbitrary powers, and where such powers should be vested. The actual effect of the proposed legislation on production, handling and distribution appears to be of less interest to some members than the effect upon the political futures of the leaders.

It is certain that some kind of food control will result and that control will rest largely with a few officials. What those officials will do with the broad powers given them will depend upon their own calibre and their knowledge of all factors affecting production and distribution of food. The objection is made that they will have greater powers than has ever been given a similar body in this country. But it must also be remembered that they will be dealing with a class of commodities that affects all classes, and at a time when that class of commodities is in a most critical condition. They will make some mistakes, but the results of mistakes will come quickly. Cause and effect will be closely associated, and with all classes of people so vitally concerned, there will be a most powerful check upon every activity.

We fail to see how farmers can suffer from such control. They will suffer from mistakes and blundering administration. But the needs of the country are too urgent to permit blunders to continue. The present scarcity of food products is so directly the result of low returns to the farmers, the result of farm labor going to other and better paid industries, the result of a let-down in farming because expansion did not pay, that there can be but one remedy. The food control body, whatever its make-up, will have but one primary task: The encouragement of the greatest possible production of food products and the putting of those products at the disposal of consumers and the government at the lowest possible price. The only possible way to increase production is to make the products of the farm pay the cost of production and a reasonable profit. Any effort to control which fails in this will fail in its primary object; and such failure will wipe out the controlling body.

HARRISBURG NOTES

Unconfirmed Appointments. — The factionalism which has raged at the Capitol ever since the inauguration of Governor Brumbaugh has taken another form and it is now for the supreme court of Pennsylvania to act. Governor Brumbaugh has refused to recognize the factional action of the Senate in declining to confirm his appointees. In like spirit he has reappointed eight men on whom the upper branch of the legislature withheld approval. The governor has reappointed as secretary of agriculture Charles E. Patton, of Clearfield, who was rejected by the Senate. It was believed that Mr. Patton would be chosen as secretary in event that the governor signed the bill creating a salaried commission of agriculture, which would mean a new commission, but Dr. Brumbaugh declined to wait and defying the Penrose influence named all of the men rejected and gave notice that he was ready to meet the test. It is assumed that refusal of the auditor general to honor requisitions of men reappointed will lead to mandamus proceedings and appeal to court. Meanwhile the salaries of the men involved will be held up and state work may be interrupted. How far the situation will lead in its various ramifications no one can say.

Work Going Ahead.—The work of the Department of Agriculture except for the farm advisors is going ahead as usual, assurance having been given that the pruning of appropriations to get them within the $82,000,000 limit fixed by the governor and the fiscal officers will not handicap activities very much. There is no way to have the farm advisory service revived and State College and farm bureaus will handle this line hereafter. Considerable inspection work is being done in the field by agents of the department, notably in regard to foods and feeding stuffs. The governor will this week act on appropriations and it is believed that he will reduce them by $4,000,000. If he would trim off various hospital appropriations the state could get along without the direct inheritance tax.

State Hunting Labor.—Agents of the State Department of Labor and Industry are making an effort to secure men for harvest work thruout the state. In a number of instances the factory inspectors have been making it their business to urge workers in mills and similar places to take a couple of weeks off and work in the fields. Just what success they will have remains to be seen as the lure of high wages is strong in the city and in spite of the necessity of having people work in the fields this year there have not been many responses. Complaint has also come from the cities that farmers are not making the best use of employment agencies and that systematic efforts to get hands are rather impeded by failure of farmers to co-operate.

Quail Save Potatoes.—According to some reports received here, quail have been the means of ridding potato patches in a number of sections from potato bugs. The quail have been reported as very numerous, especially in districts where they were liberated last year and farmers who closed their farms to hunting last year say they have heard the birds frequently.

Codes in Hand. — Governor Brumbaugh has three codes on his desk for action this month. They are the township code, which brings together all of the laws relative to such municipal sub-divisions; the dog code, which makes license and similar regulations, especially with regard to the country, and the fish code, which assembles the fishing laws. In addition, the bill relative to the bureau of markets is in his hands. The governor has been getting letters about these bills.

Inspection Results.—The Department of Agriculture has issued reports on the fertilizer, lime and seed inspections for 1916. There were 896 samples of fertilizers received and 683 were analyzed. There were 296 complete fertilizers. Concerning the analyses, the report of Chief Chemist Kellogg says that the "overages" have greatly exceeded the deficiencies "indicating that the manufacturers as a rule have furnished the amount of plant food which they guaranteed to give in these brands of fertilizers represented by the samples." The lime report covers the first year's operation of the lime inspection law and 188 samples were sent in, 163 being analyzed. It is stated that in many cases guarantees were not met, but that was more or less expected as it was the first year of operation of the law. There were 491 samples of seeds received and 323 samples analyzed and the report says "an average of the results obtained, upon both official and special samples, showed that the various kinds of seeds being sold in the state were all above the standard of purity required."

New Assessment Law.—A bill approved by the governor provides that in counties between 20,000 and 50,000 population, which number over a score, when assessments are made the property record must contain not only the name of owner and acreage but of adjoining owners.

Crops Improved.—According to reports of Department of Agriculture things have improved in regard to wheat, corn, potatoes, beans and oats. The production of potatoes in "war gardens" in the cities and towns is expected to result in a crop of at least 30,000,000 bushels.

Report on Fairs.—There is an encouraging outlook for agricultural products at the fairs this year. The amount offered in premiums for products is $187,293.60 against $108,186.65 paid last year. The race track offerings this year are given as $127,299.88 against $118,425.56 paid last year.—Hamilton, Harrisburg, July 9.

NEW YORK NOTES

The New Market Bill.—It is with profound regret that farmers, fruit growers, poultrymen and dairymen see the present State Foods and Markets Department taken over by the new management which goes into effect with the signing of the second Wicks' bill last week. Commissioner J. J. Dillon has conducted a work for the farmers that has never before been equalled in the state. He has instituted the auction sale system of disposing of farm and garden produce with much success. He has helped the dairymen in many ways and has proved again and again that the producer can get more for his goods and still allow the ultimate consumer to pay less for them by cutting out a multiplicity of middlemen. The original Wicks' bill was so evidently a bill for dealers and middlemen that it killed itself. The present bill was designed to take its place, but retains many objectionable features of the first bill, one of which is the sanctioned combination of dealers, both individuals and corporations. The Governor intimates a possibility of a special session of the Legislature to enact further legislation along these lines. It is to be hoped nothing further will be done, as the more legislation we get on the market question the worse off the farmers and the consumers are. The present Foods and Markets Department was a step in the right direction, and only needed financing and strengthening, a thing which the politicians prevented from the start. The new law provides for ten commissioners. It takes over the duties of the present State Department of Agriculture, the Department of Foods and Markets, the Department of Weights and Measures, and so much of the Department of Health as relates to cold storage. The terms of office of the board of Commissioners vary from one to ten years. The Governor appoints the first board, and as their terms expire the Legislature elects the new members. The Board has the appointment of officers and employes, and also appoints a Commissioner of Agriculture and a Commissioner of Markets.

Railroads Cut Trains.—The New York Central Railroad on July 1 withdrew between 90 and 100 trains on its lines, mostly locals running upstate. The New York, New Haven and Hartford also eliminated some 200 passenger and is rearranging its freight trains. Freight service to some points is curtailed, and to others increased, in many instances freight trains being consolidated. The roads are trying to draw heavier loads so as to conserve the supply of freight cars. The trains will be loaded 10 percent in excess of marked capacity, and half-loaded cars will not be hauled. Perishable freight, livestock, etc., will be accepted when maximum loads are carried. A week ago 11,629 cars were standing on sidings of the latter road, waiting to be unloaded. The curtailment of passenger trains will save about 105,000 tons of coal per year.

New Threshing Prices Fixed.—The threshermen of Central New York at a meeting in Auburn adopted a new schedule of prices to take effect in Cayuga County as follows: Oats, 4c per bushel; barley and mixed grains, 5c; wheat and buckwheat, 6c; rye, 8c; beans, 10c. A minimum rate of $2.50 per hour is suggested for cutting ensilage.

Vacation Rush Begins.—The volume of vacation travel promises to break all previous records. The steam roads all began doing a heavy business the last Saturday in June, and the rush continues.

Strawberries Plentiful.—Home-grown berries are in our northern markets now. The recent warm days caused such rapid ripening as to bring the price down $2 per crate.

Buy Jars Now.—The Cornell College of Agriculture warns housewives to buy their jars for canning now, so that dealers may know something of the amounts needed. So far, prices are not much above the usual.

Greatest Hoard of Gold.—The government officials believe that the greatest hoard of gold ever stored in one place is in the assay office in New York. Over $765,000,000 in English, French and American coins is the amount assembled to meet war bills.—F.

NEW JERSEY FARM NOTES

Bob Veal. — The State Board of Health has decided to inaugurate a campaign thruout the state against the practice of slaughtering calves for food purposes under four weeks of age, in violation of the so-called "Bob Veal" law. There are, it is estimated, 200 slaughter houses in New Jersey and it has been found difficult in the past to enforce the law on this subject because of the fact that the Department of Health would be required to have an inspector on guard at each of these establishments constantly. It is expected that prosecutions will result from the campaign, one case already having been referred to the Attorney General's department. It is possible that the State Board will ask the next legislature to repeal the "Bob Veal" law. It is admitted by officials that its enforcement is difficult, and it has been stated that there is no scientific justification for the statute.

State Farm. — Governor Edge announces that the state is hoping to clear at least $10,000 this year from the new state farm at Annandale, which is being operated by young men from the Rahway Reformatory. This is ground held by the state for hospital purposes in Hunterdon County, and was converted into a farm to experiment with the state-use system for prisoners or inmates of penal institutions. A total of 322 acres are now under cultivation. The young men working the farm are on their honor and there has not been an escape reported.

School Appropriation.—Between 3,000 and 4,000 high school boys enrolled in the Junior Industrial Army for work in planting on farms thruout the state during May and June. Many of these were absent from school for days. One of the bases upon which the state apportions the money to school districts for their maintenance is upon the days' attendance of the pupils. Whether the boys who worked on the farms can be credited legally with school attendance is the interesting question which many of the local school boards are now asking. The question has been put up to the State Board of Education. There are some differences of opinion as to whether these pupils, all over 14 years of age, can be marked "present." It has been pointed out that they might be credited with being under vocational instruction when working on the farms.

Normal Schools.—State school officials declare that rural school teachers should have more professional training, and the normal schools, particularly the new one to be built in South Jersey, should provide the instruction. They point out that of 1,786 teachers in rural schools, 74.6 percent have had relatively little or no training. "Children in the country are entitled to the same skillful teaching as city children," says the report of the survey. It is recommended that strong, virile departments of rural education be established at the earliest date in the different normal schools to meet the situation.

Farm Products for Army.—An appeal is made for farmers near Wrightstown, Burlington County, the site of the camp for the draft army, to grow produce for the army. The War Department at Washington will ask for bids on the materials needed for food, and the State Department of Agriculture points out that all those who desire to sell supplies to the government should consult the specifications which have been issued on the various products to be needed. Copies of the specifications may be obtained from the State Department of Agriculture at the State House, Trenton. The feeding of 38,000 soldiers and 11,000 horses is the task to be met.—L.

NEW JERSEY CROP REPORT—JULY

Following is a summary of crop correspondents' estimates for New Jersey on July 1. Figures indicate percent of condition compared with normal:

Wheat, 83; oats, 91; rye, 91; hay, 77; pasture, 75; corn, 89; potatoes (white), 98; sweet potatoes, 85; tomatoes (early), 84; peas, 94; cabbages, 91; onions, 90; field beans, 88; apples, 75; peaches, 90; pears, 65; blackberries, rapsberries, 90; strawberries, total production, 85.

Remarks.—Reports from correspondents indicate an increasing scarcity of farm labor. Labor conditions are poor in outlying sections but better near cities. More help will be needed during harvest. Hay and pasture remain below normal, practically no gains having been made during the last month. Vegetables improved during June. Apple and pear conditions are much below normal. Blight has appeared on apple and pear. Reports indicate a light set of apples, much aphis injury and a heavy June drop. Peach conditions are good in South Jersey, but poor in the northern counties. The June drop of peaches was generally heavy and leaf curl and curculio are present. An increased acreage of buckwheat is indicated in the northern counties.

FARM MEETING CALENDAR

Country Church Conference, State College, Pa., July 10-20.
Alcyon Park Grange Picnic, Pitman, N. J., August 8-10.
Society of American Florists, New York City, August 21-23.
Farmers' Field Day, N. J. Experiment Station, New Brunswick, N. J., September 6.
Solebury Farmers' Exhibit, Solebury, Pa., September 7-8.
New York State Fair, Syracuse, N. Y., September 10-15.
Dairy Cattle Congress, Waterloo, Ia., October 1-7.
National Dairy Show, Columbus, O., October 18-27.
Eastern States Exposition, Springfield, Mass., October 12-20.
Pacific National Dairy Show, Portland, Ore., Nov. 16-23.

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Poultry

YARDING VS. FREE RANGE

In the matter of free range vs. confinement, the experiment stations have proved the following facts: For best results in egg production, yarding is better than free range, which is a hindrance rather than a help; too much energy is wasted, and this means not only a waste of food but a curtailment of egg production. The farm flock that goes at random too much either gets too fat or too poor—neither a proper condition.

On the other hand, it has been proved that for quick growth of young stock free range is the thing, as it is necessary that the muscles be developed. Especially in producing future breeders, free range gives them quick maturity and they are all the more hardy for it. In the case of broiler raising, however, range must be given, or the carcass grows too lanky. For tenderness of flesh in market chickens yarding is always to be preferred. In market chickens, too much exercise toughens the sinews, and the flesh of a yearling bird is tougher than that of a two-year-old yarded. This is specially so where corn has been the principle diet.

When reference is made to yarding it should be understood that generous-sized runs are meant, and not the small enclosures such as found on city lots. Then yarded poultry must be well taken care of. They must be regularly fed, must be made to exercise, the houses must be kept clean and everything possible done for their comfort. Many poultry yards are mere enclossures in which the fowls are kept prisoners, with nothing to do but stand around and learn vices, such as egg-eating and feather-pulling. The ideal poultry yard is the yard that is large enough and well supplied with growing things in spring, summer and fall so that the fowls can find something to do. The something to do in a hen's life is to hunt for food, in some manner. If the poultry yard can be large enough to be a grazing ground, such a pasture will prove as profitable as the pasturage for the larger stock. All of our common fowls are great consumers of grass and other vegetables, which they manufacture into a high-priced product. It is therefore evident that the poultry yard that is large enough to be a poultry pasture will be profitable. The yard must, however, not be so filled with fowls as to permit them to eat the grass down to the soil, as this is the surest way of killing the grass. Overstocking any kind of a pasture kills it, and this result is more quickly reached with poultry than any other stock, for the reason that the fowls will pull the stalks of grass out of the ground, while cattle, horses, sheep and hogs merely eat the grass down to the roots.

Usually where the fowls are kept confined closely in a small yard they will tramp down and spoil every blade of growing stuff. A plan that is often practiced in order to avoid this condition is to fence off one end of the yard and keep it in grass or some growing stuff and then let the fowls in it every evening for a short time. Then drive them back in the other part of the yard as soon as they have eaten what they want and before they have had time to tramp it down and dig it up. Just keep that part of the yard for supplying green food and not for running in any longer than a few minutes each day or evening. In this way they will have a supply of green food all the time. Rape is a very good plant to grow in the poultry yard; it must be fenced off from the rest of the yard to protect the plant until it has reached a highth of a foot. Another plan that gives good satisfaction to many is to have two yards, one of which is used for fowls while the other is producing some green crop. In this way the soil in the yard will be kept fairly sweet and pure.—W. F. Purdue.

MAKING THE HEN ROOSTS

The old style hen roost usually consisted of a series of poles built from the floor to the ceiling of the hen house like a ladder. This kind of roosting equipment is frequently found on farms at this time. It has two faults which are of importance. In the first place the hens often fight for the highest perch and there is more or less strife every night at roosting time. This is not conducive to the best egg records. In the second place the droppings accumulate on the floor and contaminate an area that should be fairly clean and covered with litter in which the hens can scratch, especially during the winter and on stormy days.

The best type of roost is built on a platform which collects the droppings at night. The space under the platform is covered with clean litter and to make the house as clean as possible the most successful poultry breeders make a practice of cleaning the dropping boards every day.

Roosts should always be removable to enable the poultryman to protect the fowls from mites and lice. Mites which congregate in the cracks and crevices around the roosts seriously reduce poultry profits. If the roosts are removable, it is possible to thoroly spray and eliminate the mites. We find that two-by-threes make the most satisfactory roosts. The upper edges are planed round and smooth, making a comfortable perch. The hen that is roosting in the open will select a round limb of a tree if she is permitted to choose her own roost. The planed two-by-three is a very satisfactory substitute.

We make our roosts in sections of three with each roost ten feet long. These roosts are hinged to two crosspieces and the crosspieces are hinged to the rear wall of the house. When cleaning the dropping boards, the roosts may be raised and hooked to the ceiling of the house. A block about four inches long can be nailed to the front at each end and the roosts will be held up by these blocks and the rear hinged when they are lowered on the dropping boards. Of course there are some cracks where the two-by-threes are joined to the crosspieces but they can be drenched with kerosene oil or one of the commercial mixtures for protecting the hens and there will be no danger of mites attacking the flock.—R. G. Kirby, Mich.

THE INTERNATIONAL EGG-LAYING CONTEST

A field day for poultrymen was recently held at the plant of the International Egg-Laying Contest which is being conducted at Vineland, N. J. Many poultrymen were present and all were intensely interested in inspecting the plant which is intended to throw light on the much discussed question of the influence of heredity in egg-laying.

The 100 pens and yards are all alike. The 1000 hens are all fed the same and treated alike in every way. Many of the pens are from flocks which have been bred for some time with a view to egg-production, and in most instances these seem to be in the lead. The addresses which were given in the afternoon by Mr. Ballard, of Philadelphia, Mr. Warner, of the Connecticut Experiment Station, and Prof. Lewis, of the New Jersey Station, who is conducting the experiment, were all mainly on the subject of breeding for laying. While these men have done a great deal of work along this line, all agreed that the question is not fully understood and desired results are not certain to follow. They agreed also that there are few if any invariable rules for selection by physical examination.

The highest production for the eight months just closed was made by a pen of White Leghorns, No. 88, which totals 1610 eggs for the 10 hens. The high hen is a Barred Plymouth Rock in pen No. 1. She laid 222 eggs in 240 days.

It is well worth while for farmers and poultrymen to make a visit to this plant, especially at the time of a field day, and see what is being done in the effort to breed good layers. Since the experiment is to run three years the interest and value will increase, as it will show whether the good layers can transmit their ability to the second and third generations.

MASH OR GRAIN, WHICH?

The poultry experience of the young farmer, who describes his first summer, in the Pennsylvania Farmer, is exactly the reverse of mine. He says he feeds a good dry mash, but fails to state whether or not he feeds anything else. I assume that he feeds scratch grain also but, if not, I didn't know people expected hens to lay on dry mash alone—tho neither do I know but that some authorities may advocate this. The point I am making, however, is this; my hens didn't lay enough to pay their board bill until early in March, when I ran out of dry mash and, for the present, could obtain no more. I had nothing to feed except whole corn, while my hens were accustomed to having dry mash always before them. To my surprise the egg yield immediately increased from about one or two percent to 50 percent and the 50 percent yield has been steadily maintained up to date, and is rising just at present. The exclusive corn diet seemed so satisfactory that I have continued it, tho I am wondering a great deal what may be the correct solution of the problem. Is not dry mash beneficial for laying hens? Was mine a poor mash? Had I previously fed too heavily? Or would my flock of dilatory layers have begun laying well in March anyway?—Mrs. Edith Anderson, N. Y.

KEEPING THEIR COLOR

The pullet that moults out well as a hen, that is, shows as good quality in color of plumage as when she was a pullet, is more valuable as a breeder than if she shows a falling off in quality, and if in her second year as a hen her good quality is retained, her value is even greater as a breeder than the year before, since she has shown that she has strong retaining qualities, which is a very good feature to establish in any strain. And what is true of the female in this respect is also true of the male. Too large a percentage of our birds fall off in color in their second year, which shows a lack of "staying qualities" and they are not as desirable for breeders as birds that keep their color to an older age. It is a fact, however, that birds showing this trait do not always prove good breeders, but the tendency is in the right direction and should be encouraged.—C., Tompkins Co., N. Y.

Live Stock

PREACHER JORDAN FEEDS MANY STEERS

(Continued from page 1.)

Texas cattle, fit for nothing but canners. You could have fed a crib full of corn to them and they would not have become fat." However, by the crossing of these cattle for a few years with pure-bred Hereford bulls, a cross resulted that made good feeders. Mr. Jordan when selecting the lot bought the progeny of young cows for he said: "They were one more cross nearer to being pure-bred."

Since this was probably the largest lot of steers ever fed by any one man in this section of Pennsylvania, and because of the manner in which they were fed and handled, a widespread interest was developed. So Mr. Jordan decided to have a Cattle Feeders' Day, patterned after the ones held at State College. He set about to get speakers and to advertise the meeting. As a result, it was estimated that 5,000 people who came in 1,000 automobiles and a few buggies assembled on an almost perfect day, June 19, to see the cattle and to hear the speakers, especially to hear Reverend Jordan tell how he did it.

Mr. Bayard, an editor and breeder, emphasized breeding and gave as an illustration the high-grade Jordan steers that were only a few generations removed from long-horned Texas cattle.

Professor Tomhave, of the Animal Husbandry Department, Pennsylvania State College, gave some of the following results of feeding at State College for several years: 1. Six out of seven years, cheaper and greater gains were secured in the open shed than in an enclosed barn. 2. It was cheaper to feed steers as a group than as individuals. 3. Cheaper equipment is found in the use of the open shed than in the basement barn. 4. In all the years of experimenting, the cheapest gains were made where silage and cottonseed meal were part of the ration. He closed his address with the statement "In the future, the man who does not have a silo cannot compete with the man who has one."

Reverend Jordan in his talk said in the seven years of feeding operations they have never received less than the market price for the products of his farm when they were fed to steers. In speaking of his present bunch he said that when first put in the feed lot they received heavy feeds of silage and hay at first, with very little grain. Then as the steers gained, the roughage was decreased and the grain increased. The grain at first was made up of broken ear corn and cottonseed meal. Now at finishing time the ration is made up of 12 pounds of corn meal and 2½ pounds of a mixture of cottonseed and oil meal daily.

No mention has been made of the hogs. Ever since he first began feeding steers Rev. Jordan has had hogs following steers. At first these were more or less nondescript in character but it was not long before he began to see the value of good breeding in them as well as the steers. So two years ago he bought a purebred Duroc-Jersey sow and today most of the 75 head he has in the feed lot are close relations of this sow. As yet he has not paid so much attention to the details of finishing his hogs as he has the steers, but next year he expects to start to improve on that point. In the past they have not received anything except the droppings while in the feed lot and about two weeks before they were sold they received corn. He realizes that tankage to supplement this would make cheaper gains, but so far has neglected that point.

One might think that with such a large farm and such a large number of steers to feed that a very large force of men would be employed. But Mr. Jordan realized that labor would be his most expensive item if he had to hire much of it, therefore he has installed as far as possible devices to make short cuts in labor. Only three men are employed the year round. In harvest time and at silo filling time, of course, extra hands are employed. In feeding the steers a large, one-horse dump wagon is used. This is backed directly under the silo where it is filled and hauled to the different feed troughs. A tractor is used on the farm which the farm manager said would take the place of four teams when preparing the land for crops.

Before he began feeding steers, the crops grown were the regular five- or six-year Pennsylvania rotation. Now it is modified so that most of the land is in corn for two years. That which is in corn only one year is followed by oats, which are used as a nurse crop. Rye follows the other corn after it is cut for the silo. The rye is usually seeded about October 10th and is used as a nurse crop. Wheat is not grown at all for there is too much danger of winter killing when it is seeded so late.

THE TWO SILOS ON JORDAN FARM.

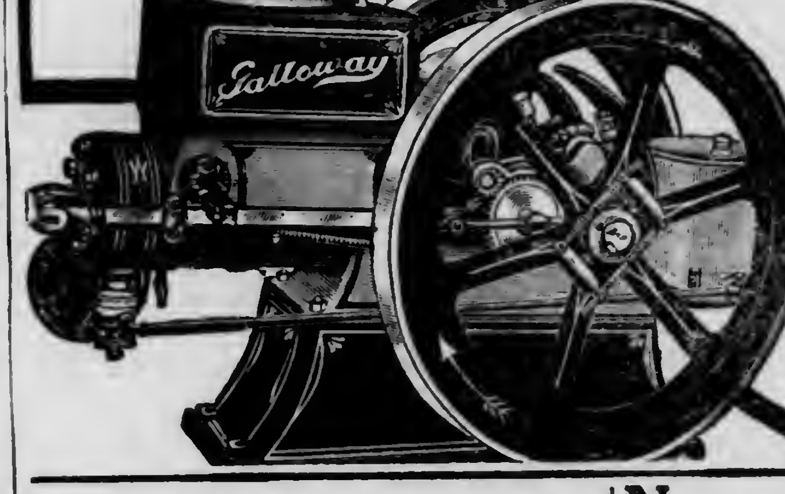
Rye makes a fine growth and most of it is sold as a cash crop.

With this system of feeding steers the farm is now producing seven times as much as it did ten years ago and nearly three times as much as it did after it was tiled and lime and commercial fertilizers used. Mr. Jordan uses some commercial fertilizer yet in the form of about five tons of acid phosphate yearly to balance up the manure.

The last question, is it all paying? It certainly is. Mr. Jordan said there has never been a year that he has lost money at it. He has not yet sold the present bunch of steers but he estimates that they have gained 450 lbs. each. Two weeks ago he was offered 13 cents a pound for them. Figure it out for yourself: 400-pound steers costing 8¾ cents per pound and 850-pound steers selling for 13 cents per pound.

I do not think that Preacher Jordan is going to blow up soon or that we will have to go to his funeral. He says that next year he expects to double the number of his silos, double the capacity of his sheds, and feed twice as many steers. That does not look like a funeral. Instead, we expect to attend even a bigger Cattle Feeders' Day at his farm next year.

You can brag about your garden all winter if you have your canned evidence on the dinner table.



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JEAN'S WAY

By Freda M. Allen

The laughing, chattering group that had motored over from the nearby college town were making ready to start back, and gayly calling to Manning Turner, as he stood apart a little way, talking to his father.

Tall and broad was Manning Turner, and altogether good to look upon, thought Ellen Wilson as she watched him from the big, gray car. She also thought she knew what made his face so stern as he took his place by her side. Ellen had been quick to notice the look of disapproval in Mr. Turner's eyes when she had met him earlier in the day. Manning had told him much and often of Ellen's charms—charms which had caused the stern old man to mark her down as frivolous, however favorably they might appeal to his son. And his glimpse of her had only strengthened that decision.

Very dainty and sweet she looked today, all in brown—a perfect setting for her big brown eyes and golden hair.

Mr. Turner had been reared in the school of adversity. Left an orphan at an early age, he had found the road of life anything but smooth. Little by little he had cast out all the things which make for pleasure and frivolity. He looked askance at colleges—saying a high school course was enough for anyone, and had only consented to Manning's wish for something better because he had chosen agriculture and would be able to take up his father's work when he laid it down. Musing on this as he rode home in the April twilight, his thoughts centered on Ethel. Why, Oh! why couldn't Manning choose a mate more suited to his work in life? There was Ethel—Ethel with whom he had gone to school. Plain to be sure, but with a knowledge of the country ways that came from a life-long home there, and the daughter of his best loved friend.

Manning was very quiet as they sped homeward over the smooth, white roadway. So quiet that the crowd noticed and began to jest him about it. With an effort he roused himself and soon became the gayest among them.

''Father says,'' he began, when Ellen and himself were dropped at her door and the car sped on, ''Father says that Mrs. Thompson (the housekeeper) went away yesterday and Aunt Hettie is bedfast with her rheumatism again. Ruth is trying to do the work and go to school too.''

Mrs. Turner, weary with the cares she had borne so long, had laid them down two summers before and since then Mrs. Thompson, easy going and somewhat slack, had kept the home together. Now fifteen-year-old Ruth must take up the burden with only the help of her small brother Jimmie and Aunt Hettie to tell her what to do. Aunt Hettie, who was never well, was Mr. Turner's sister and had had her home with him for years.

Ellen was silent, studying Manning's frowning face as he stood before her.

''Starting on that trip tomorrow?'' he broke in suddenly.

Then slowly the hazy idea that had been forming in her mind became clear.

''Yes, I start in the morning,'' she answered quietly, ''and Manning,'' she added, ''you are not to write or expect to hear from me. If in two months you feel toward me as you say you do now—why we will talk the matter over.''

''As I say I do now? Oh Ellen, if you only could know how much I care,'' and he held out his arms, but with a hurried ''goodbye'' and a ''Think it over first, Manning,'' she had slipped away. Content with this decision he knew he must be.

Two months seemed a long time to the impetuous youth. Ellen was his, must be his anyway, even tho his father disapproved. Then his thoughts turned to their present predicament.

Ellen ran quickly up to her room, threw off her wraps and began dragging out suitcases and making ready to pack. But instead of the pretty dresses and hats and all the dainty wardrobe that she had gathered together for this much looked-forward-to visit to her aunt in a distant city, she choose only her plainest clothes and her shabbiest suitcase.

''He must like me—he has to,'' she kept saying over and over to herself, as she hurried back and forth, ''for Oh, I can't give Manning up, and we could never be happy if his father kept on feeling toward me as he does now.''

After her packing was finished and the discarded wardrobe put away again, in closet and drawer, she sat down to write to her aunt of her changed plans.

She was awake early the next morning and went about dressing with great care. First she brushed out her wealth of hair—relentlessly combed out every curl and coiled it into a prim knot at the back of her head. Then she slipped into a plain white blouse, a suit of dark blue left from last season and a bit shabby. Stout, low-heeled shoes took away some of her heighth, and a plain black hat and her oldest suitcase made up her toilette.

Near noon that day, Mr. Turner was in the kitchen trying, with clumsy fingers, to make a bit of toast and tea for Aunt Hettie, and to get a bite of dinner for himself. But the toast was burned and hard and he had burned his finger when he heard a light rap at the door. Still carrying a piece of the blackened toast, he turned to see who it was. There stood a small, plain looking girl in a shabby hat and suit.

''Does Mr. Tucker live here?'' she asked.

''Turner—Turner is my name,'' he corrected.

''Well,'' she said, ''at the village they told me that a Mr. Tucker or Turner needed someone to help with the housework, so here I am.''

''Did you walk and carry that suitcase?'' he questioned kindly. ''But wait, come in and rest a bit anyway.''

Into the disorderly kitchen he led her.

''Yes, we do need a girl,'' he went on, ''but you look too young for the place. Can you cook a decent meal, and are you strong enough to do all there is to be done here?''

''You might try me a few days and then if I don't suit, you can make a change.''

''Well, I'll take you up to my sister. She will know better than I how to tell you what to do.''

Thru the untidy dining room and up the dusty stairs she went, and was moved to pity at the sight of a sweet faced, white-haired, old lady propped among the pillows of a big four-posted bed.

''This young lady is going to help us and you must tell her where to begin,'' Mr. Turner said as he left them together.

''Your name, child,'' said the sweet voice.

''You may call me Jean — Jean Smith,'' said Ellen faintly. Deception even in the smallest matter did not come easy to her.

''Well then, Jean, the first thing to do will be to get something to eat. I declare I don't know what kind of a place you will find down stairs.''

''I'll get along very nicely,'' Jean replied, ''and now I must hurry down and get to work.''

A few minutes later, Mr. Turner coming into the kitchen found a very business-like person in a blue checked gingham and with a big apron tied about her waist, busily engaged in making an omelet. Deftly and quickly she went about her work, and soon there was a dainty tray ready for Aunt Hetty—and Mr. Turner thought he had never tasted such dainty omelet or such perfect coffee as that she set before him.

The frown on Ruth's face faded when coming from school a few hours later, she entered the cheery kitchen. Wondering what good fairy had whisked away the pile of dishes she so much dreaded, she hurried thru the down stairs rooms to find them cleaned and brightened, and Jean in Aunt Hettie's room, going over plans for the morrow.

''What a pretty old place this is,'' thought Jean that night as from her window she watched the moonlight making wavering shadows thru the old orchard. And how homey and cheerful the house could be made, too. She voiced something of this to Ruth a few days later, but Ruth only exclaimed in surprise, ''Make this old house into anything pretty! Why father wouldn't think it needed anything. So long as things are whole he thinks they will do, no matter how old and shabby they are. Why, I've wanted my room done over this long while.''

''Suppose you get his consent to fix your room as a start, Ruth. It won't take much but work, and with Jimmie's help, you and I can do that easily.''

Mr. Turner gave his consent grudgingly, it is true, but nevertheless he gave it, and they set to work with a will. Jimmie painted the floor and Ruth and Jean made rugs from some gay, new rag carpet that had been stored away in the attic. When the woodwork was painted white, the windows made pretty with dainty swiss curtains and gay flowered hangings, and the dingy furniture rubbed and brightened, the room was declared finished and Mr. Turner called in to inspect it.

''Gee!'' exclaimed Jimmie, ''I wish I could have my room fixed up, too.''

''And I guess you can,'' said his father, and went off down stairs.

When this room, too, was finished, Mr. Turner offered to let them have a man come and paper some of the down stairs rooms. Jean went about the rooms, rearranging the pictures, discarding some of the furniture and bringing in some pieces from other rooms, freshening the curtains or making new ones; the house seemed a changed place. Indeed, sunshine flooded it—for every blind and shade were thrown open and Aunt Hettie came down stairs now to sit long hours in the warm, May sunshine.

''Where did you learn to cook such good things?'' asked Ruth one day as she watched Jean busy with the Saturday baking.

''At school, dear.''

''Oh, you took a course in Domestic Science. How I wish I could but father doesn't believe in such things—says girls didn't have to go away to school to learn to cook in his day. My brother Manning's girl,'' she ran on, unmindful of her father's presence in the next room, ''well, she studied Domestic Science, and father says he bets she can't cook a meal fit to eat. If my father knew you went to college, maybe he would let me go, too, 'cause he thinks you are a wonder at cooking,'' went on the eager voice.

Mr. Turner, writing to Manning in the next room, was telling him of Jean.

''You should see how the children are attached to her and what she has done for this whole household. Even Aunt Hettie is brighter and happier than I have seen her in months.''

One morning in June, all blue and gold and rose scented, Ruth came into the kitchen waving a letter.

''Manning's coming home tomorrow to stay. Oh! I'm glad, glad, glad,'' and she ran away to fine Jimmie—not noticing Jean's startled exclamation or the color that came rushing to her cheeks.

Manning came the next afternoon—but not until even, sitting with his father on the wide, cool porch, did he catch a glimpse of Jean hurrying across the lawn. Ruth and Jimmie were with her.

''There goes the finest housekeeper in the state,'' Mr. Turner said, as he saw Manning's gaze following her. ''Learned it all at college, too. I'll have to give colleges some credit, eh, son? Think I'll send Ruth when she is thru school here,'' he added rather lamely. ''But why are you looking so queer, Manning? Seeing visions?

''Do you think Ruth and Jean will be able to out-class Ethel?'' Manning asked with just a bit of sarcasm.

A few minutes later he found Jean in the dining room. She turned at the sound of his voice, the happy blushes dyeing her cheeks.

''Ellen, you wonder. So this is the trip you took. How did you do it? Why you have made this old place blossom like a rose—even father is changed.''

''Sir,'' her gaze wavered before the light in his eyes. And as he held out his arms—''Sir, the two months are up and if you feel toward me now as you once said you did—why, we will talk matters over.''

THE TWIN BALLOTS

Along in November when chill was the weather
Two ballots were cast in a box together.
They nestled up close like brother to brother,
You couldn't tell one of these votes from the other.

They were both rum votes
And sanctioned the license plan
But one was cast by a jolly old brewer
The other by a Sunday School man.

The Sunday School man had always be truer;
Kept busy all summer, denouncing the brewer,
But his fervor cooled off, with the change of the weather,
And late in the autumn they voted together.

The Sunday School man had always been noted
For fighting saloons, except when he voted.
He piled up his prayers with a holy perfection,
But knocked them all down on the day of election.

The foxy old brewer was cheerful and mellow;
He said, ''I admire that Sunday School fellow,
He is true to his church, to his party he is truer,
He talks for the Lord, but he votes for the brewer.''

Submitted by—
Lillie E. Shimp, Cumberland Co., Pa.

DRYING VEGETABLES

Preserving Corn, Beans and Peas

''Please give your readers a recipe for preparing and drying sugar corn for winter use. The old Pennsylvania style is the best, I am told. Also please give some other recipes for drying fruit or vegetables.''—Frank E. Hopkins, Alexandria Co., Va.

To Dry Corn

We do not know just what the old Pennsylvania style is, but here are several methods which are all good. (1) Cook in boiling water 2 to 5 minutes, which is just long enough to set the milk. (Corn is best when as fresh from the stalks as possible. We like to dry it right away.) Then shave from the cob with a sharp knife, taking care not to shave off any of the cob. Spread very thinly on shallow pans or trays, and set in a very moderate oven, making sure that the heat is not greater than 110 degrees at first; after about an hour you can increase it 20 to 30 degrees, but it must not go above 145 degrees to get best results. It should dry in three or four hours. Stir it occasionally as it is drying. Pack in boxes or paper bags when it is dry. Examine it daily for about four days to make sure that it is thoroly and evenly dried out before you seal it by pasting paper around the boxes or by tying up the bags tightly enough to keep the flies away from the corn. It is a good plan to pour it all into rather large pans and shovel it over several times during the three or four days of ''conditioning'' before sealing it. This will enable one to detect if any parts of the mass are not thoroly dried.

(2) Another method is as follows: Boil or steam for 10 minutes to set milk, shave off the tips of the kernels, then with the back of the knife press out the pulp, and dry as directed in method one.

(3) Corn may be dried in the sun, but it should be covered from flies while thus drying, by means of mosquito netting, because flies will lay eggs on the corn, and later when the corn is enclosed and stored in the warm place that we like to keep dried corn in to prevent it from getting damp, the fly eggs are likely to hatch into the maggots that sometimes pester dried corn. On the whole, stove drying is more satisfactory. And even with stove drying it may be advisable to cover with mosquito netting if flies are not excluded pretty well from the kitchen or drying house by screens.

Some think that adding 1 teaspoonful of salt per gallon of water in which you boil the corn improves the flavor, but it suits us pretty well without thus salting. A dozen medium-sized ears of sweet corn will average about one pound of dried corn.

To Dry Green Peas and Beans

Peas.—There are several good ways, as follows: (1) If very young and tender, simply shell and spread on trays, and dry at about the same temperature as directed for corn. They should be dry in 2 hours. (2) If full-grown, better shell and blanch the peas by putting them in a square or a bag of cheesecloth and immersing in boiling water for 5 minutes. Then dry off the surface moisture, spread on trays, and dry as directed in method one. They should dry in 2 to 2½ hours. The blanching in hot water seems to destroy some of the ferment or mold spores that might otherwise give some trouble. (3) Very young and tender unshelled peas, pods and all, may be dried thus: Wash and blanch as directed above for 5 to 7 minutes, dry off the surface water, cut into ½-inch pieces, and dry, beginning at 110 degrees, as directed for corn. (4) Full-grown peas may be run thru the meat grinder, and dried. Thus they dry more quickly than when whole, but of course will have to be used in soup or some ''made'' dish. When dried whole, they can be soaked and cooked and served the same as when new.

Beans.—Green and wax beans can also be dried. They must first be thoroly washed, then strung, cut up into ½- to 1-inch pieces (the smaller the pieces the more quickly they will dry), and then blanched by suspending in a cheesecloth in boiling water for 10 minutes to remove as many of the ferment spores as possible. Then spread and dry, the same as with peas.

Drying and Canning Bulletins

The federal government has just issued some excellent bulletins giving very detailed information not only about drying and canning methods, but also about evaporators and canning outfits and appliances for home dryers and canners; they tell you how to make some good drying outfits. Send to the Department of Agriculture, Washington, D. C., for these bulletins, and thus have all the needed information in compact, handy, bulletin form; Farmers' Bulletin 841, ''Drying Fruits and Vegetables in the Home'', and Farmers' Bulletin 839, ''Home Canning by the One-Period Cold-Pack Method''. These bulletins are both free for the asking. Watch the Pennsylvania Farmer advertising columns also for some very good types of evaporators and canning boilers. And come freely to us with your questions on these or any other food problems that bother you.—The Editor.

RENOVATING HATS

In these days of high prices new hats are out of the question for some of us. This spring I cleaned up and decorated my last year's hat so that it will answer, and this is how I did it: I ripped off all the trimmings, brushed well with a brush, then brushed it again with a piece of old velvet dampened with alcohol. The velvet should be near the color of the straw. The nap of the velvet will remove the dust that brushing does not, and the alcohol will clean off the soil and restore the natural lustre to the straw.

The woman who is handy with her needle can embroider her hat. The smartest hats of this season are embroidered, braided, stenciled or trimmed with flat ornaments. Chenille, yarn or coarse silk thread can be used for the flower petals, making loops of the chenille or yarn by catching it to the straw with tiny stitches, using a fine thread of the same shade. The leaves are made with kensington stitch, and the centers of the flowers are done in French knots. The work can be done on the hat or made on a band of ribbon. A pretty design was made of a chain crocheted from fine wool yarn, and this chain was used to form the loops of a daisy. The loops were caught and fastened to the straw with a single thread of the same yarn. The centers of the daisies were filled with French knots, and the leaves were done in kensington stitch with green yarn.

Cleaning Men's Straw Hats

Men's straw hats may be renovated to look almost as nice as new thus: Rip off the band, scrub the hat in luke warm water, using 1 pint in which has been dissolved 1 teaspoonful of cream of tartar. Scrub quickly with a brush, rinse well with clean water, and rub as dry as possible with a dry cloth. Let dry thoroly on a flat surface to keep the brim straight. New bands and bows can be made, or the old ones turned inside out and sewed back into place.—Mary A. Kintigh, Westmoreland Co., Pa.

THE CONVENIENT LABEL

Now that the canning season is here again it is well for housewives to bear in mind that labeling each can with name of contents is a great convenience. Also place the date 1917 on each label. If cans are placed in paper sacks to exclude light, a good thing to do is to write name and date on sack. The extra trouble and time spent in doing the labeling will prove so helpful that the busy woman who tries it this season will consider her time well spent. Who has not gone after a certain sort of berries only to find it something else; or after plums to find they were peaches? It is not always convenient for the one who cans the fruit to place it in the cellar or to go and get it during the winter. Labeling enables any member of the family to get the desired can.—Jessie E. Nye, Erie Co., Pa.

SOME USES FOR SWISS CHARD

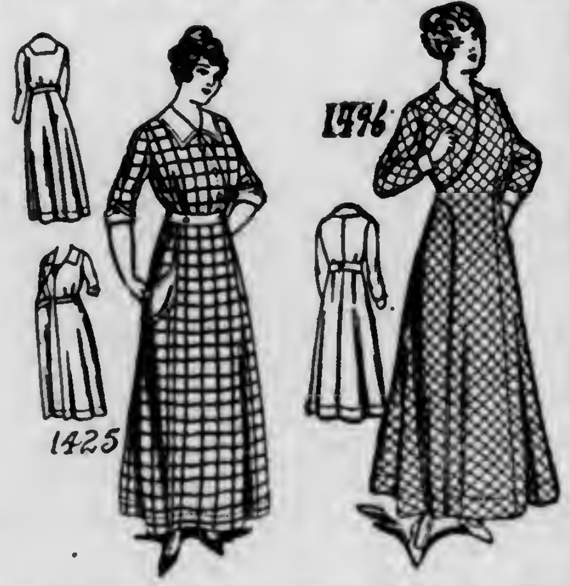
Many farmers as well as town people must keep their hens penned up during the summer. Green feed must be furnished to keep up the egg production. A bed of swiss chard will produce a most excellent green feed and a much larger amount than any other plant. The leaves grow extra large and have large white stems. Cut up in rather large pieces, the hens will eat every piece.

For persons who like beet greens, chard makes a good substitute and is preferred by many. It is much more quickly prepared than beet greens since the leaves are so much larger. The wide, white stem may be cooked with the leaves or separate. Cut in small pieces and cooked and seasoned like asparagus, it makes a very appetizing dish.—Jessie E. Nye, Erie Co., Pa.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

1425. — Coat-Style Reversible. — It closes in coat style, with the fronts overlapping. An ample pocket is arranged over the side front. The long sleeve is dart-fitted. The dart fulness may be cut away and the opening finished with a facing and underlap for buttons and buttonholes or other fasteners; then the sleeve may be turned back over the arm when desired. The pattern is cut in 7 sizes: 32, 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 6¼ yards of 36-inch material for a 36-inch size. Pattern, 10 cents.



1496. — Back-Fastened Reversible. — Very easy to adjust—just a simple crossing of the fronts and a fastening at the back. Pattern is cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 6 yards of 44-inch material for a 36-inch size. The skirt measures 3 yards at its lower edge. Pattern, 10 cents.

Make Your Bread Rich, Sweet,

full of flavor and food-value. Buy the right flour, and you can economize on other more expensive foods. Your family will be just as well-nourished and just as well-pleased, for there's no food more satisfying than good bread, made of

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Shane Bros & Wilson Co
Phila, Pa Minneapolis, Minn

"I'm On the Back of Every Sack"

Markets

PHILADELPHIA PRODUCE.

Philadelphia, Pa., July 9, 1917.

The violent drop in the wholesale potato market was the means of making possible a steady market with a moderate movement. Receipts have continued to increase daily and in spite of the heavy supply the trade has been able to absorb the offerings at the reduced price. Eastern Shore of Virginia Cobblers in cloth-top barrels are selling at $4.25 to $4.75 for first grades and at $1.50 to $2 for second grades. Compared with the corresponding week of last year these prices show an average increase of $1.50 to $1.75 per barrel. Irish Cobblers from the Norfolk section sold at $4 to $4.50 per barrel for firsts and at $1.50 to $2 for seconds. Early Jersey potatoes are in fair supply and are selling at $1 to $1.15 per ⅝ bushel basket for first grades and at 50 to 60 cents per basket for second grades.

Vegetables.

Jersey tomatoes seem to make their appearance every year just at a time when Mississippi stock no longer meets the requirements of the fancy trade. The good demand continues for good Mississippi tomatoes but the large portion of the receipts from that section are arriving in poor condition. Desirable Mississippi tomatoes are selling at 90 cents to $1.10 per flat crate of four baskets, but many of the sales are made as low as 50 to 75 cents per crate because of their undesirable quality. A car of Tennessee tomatoes offered this morning showed fine quality and sold at $1.65 per crate; the same size crate as the Mississippi crates. The receipts of Jersey tomatoes are light, but the large, heavy stock offered sold at $3.50 to $4 per ⅝ bushel basket. These prices are 50 percent greater than prices received on the first shipments last year.

Local beans are in more liberal supply and the market lower. Jersey green beans in ⅝ bushel baskets are selling at 60 to 75 cents per basket and wax beans are selling at 50 to 65 cents per basket. The supply of Jersey peas is running lighter and prices are holding steady at 75 cents to $1.25 per ⅝ bushel basket, according to size and color. Lima beans are now on the market from the Carolinas and showing good quality and condition. Sales on Lima beans are ranging from $3 to $3.50 per hamper. The local supply of asparagus is decreasing as the season is nearing the end. The trade has about had its fill for the season and is more particular in its buying, so that poor quality asparagus is moving very slowly. Fancy grades of asparagus sell at the range of 15 to 20 cents per bunch; prime grades at 7 to 12 cents; and culls at about five cents per bunch.

The variable quality of Texas onions has caused a draggy market and prices continue to decline. The demand is poor on Texas stock at 75 cents to $1 per standard crate for first grades and at 50 to 90 cents per crate for second grades. Local shipments of Yellow Danver onions from Jersey are selling at 65 to 75 cents per ⅝ bushel basket, and receipts show good quality and condition. The increased shipments of cabbage from near-by points have eased the market off to $1.65 to $1.90 per barrel and 50 to 60 cents per ⅝ bushel basket. Cabbage from the Eastern Shore and Norfolk is selling at $1 to $1.75 per crate according to size and quality. Peppers are more plentiful from Jersey sections and sales are made at $1 to $1.25 per ⅝ bushel basket. Florida continues to ship a limited quantity of peppers and these are selling at $2 to $2.50 per crate.

Pennsylvania lettuce is on the market in a wide variety of quality. Sales on boxed lettuce are made at 75 cents to $1, while some extra fancy marks sell as high as $1.25 per box of from 24 to 36 heads. Romaine sold at 40 to 60 cents per bushel box. Local grown spinach is in good demand and is selling at $1 to $1.25 per barrel and at 50 to 60 cents per bushel box. Cauliflower of fair size and color is selling with good demand at $1.50 to $2.50 per barrel, and some fancy stock at $3 per barrel. Bunched beets and carrots are in demand at $1.50 to $3 per hundred bunches. South Carolina carrots are selling at $3 to $3.25 per barrel. Radishes are slow sellers and the near-by stock offered is selling at 50 cents to $1.25 per hundred bunches. Scallions continue to sell with fair demand at $1 to $1.50 per hundred bunches.

Fruits.

Peaches are in active demand and have had a good market from the opening of the season. Belle of Georgias are now on the market but the stock thus far has been small. Hiley Belles are the best quality now being offered and they are running in generally good condition. Sales today ranged from $2.25 to $2.50 per crate on the average run, and less attractive stock showing hail marks solds at $1.75 to $2 per crate.

Receipts of cantelopes are practically doubled this year as compared with last season, but the market continues steady with the movement moderate. California green-meat cantelopes packed in standard crates of 45 sold at $2 to $2.25 per crate; those showing an overripe condition sold at $1.75 to $2 per crate. Flat crates with 12 to 15 cantelopes sold at 65 to 75 cents per crate. Georgia cantelopes are showing poor quality and sales are slow at poor prices. Standard crates of Georgia green-meats sold today at 90 cents to $1.25 per crate and standard 36's at 85 cents to $1 per crate.

Warmer weather has greatly increased shipments of watermelons and the market is kept heavily stocked. South Carolina shipments are showing best quality and condition and Tom Watsons from that state are selling at $275 to $325 per car for stock averaging 26 to 30 pounds; and at $175 to $275 per car for 21 to 25-pound average.

Blackberries are in liberal supply but much of the stock is wet and soft. Fancy dry blackberries are selling at 12 to 14 cents per quart, and the poorer quality as low as five cents per quart. The increasing quantity of raspberries brought the market price down to 4 to 5 cents per pint. Huckleberries of good quality are scarce and sell at 12 to 15 cents per quart, with a few bringing 16 and 18 cents per quart.

The supply of cherries is fairly heavy again this season but a fair market has been maintained thus far on desirable stock. Sour cherries packed in berry crates are selling at the rate of 9 to 13 cents per quart; packed loose in half-bushel baskets they are selling at 5 to 8 cents per pound. The large eating cherries find ready sale at 15 to 20 cents per quart, and eight-pound baskets are selling at 75 cents to $1 per basket.

Poultry.

There is greater interest in the live poultry market at the opening of this week, and live fowls of desirable size and quality are being bought up at good prices. Fowls have advanced to 22 to 24 cents per pound for fancy stock and lighter weights are selling at 20 to 22 cents. Spring chickens are selling as high as 32 to 36 cents, but a large proportion of the receipts are of less desirable grades and sell down to 22 cents per pound. Old roosters are selling at 15 to 17 cents and live ducks at 16 to 20 cents per pound.

Dressed fowls are in light supply and fancy stock is selling at good prices. Choice fresh-killed, dry-packed fowls sold at 22 to 25 cents per pound and medium weights sold at 20 to 21½ cents, according to quality. Spring chickens are in fair request at 34 to 38 cents per pound, and a few at higher prices when averaging 1½ pounds apiece. Spring ducks are in demand at 19 to 22 cents per pound.

Eggs.

Strictly fresh eggs are in good demand and the market is readily absorbing the offerings at advanced prices. Near-by first grades are selling at 36 cents per dozen; near-by current receipts at 35 cents; near-by seconds at 31½ cents. Western extra firsts are selling at 36 cents and firsts at 35 cents per dozen. Southern eggs are in heavier receipt and sell at 33 to 34 cents per dozen.—Selmarad.

LANCASTER PRODUCE.

Lancaster, Pa., July 9, 1917.

A record number of farmers were on the market this morning, nearly all of them having large quantities of new potatoes. Many held for the high prices of the past few weeks, and as a result great quantities were unsold when the market closed. Hucksters offered small potatoes as low as 10 cents per half peck. Raspberries were abundant but met a quick and steady demand with ten cents a box the lowest ruling price. Watermelons were also plentiful and were held at 40 and 50 cents. Cantaloupes sold for a dime. Country cabbage was on the stalls in quantities and brought 7 cents.

Butter and Eggs.—Butter, creamery, 45@48c per lb.; do., country, 42@45c; eggs, fresh, 35c.

Live and Dressed Poultry. — Chickens, dressed, $1@1.50; do., live, $1.50@2 per pair; do. old, live, 18c per lb.

Vegetables and Fruits.—Corn, 30c doz.; new peas, 18@20c ½ pk.; new beans, 20c ½ pk.; asparagus, 6@8c bunch; lima beans, 7@8c pint; squash, 4@5c each; beets, 5c bunch; lettuce, 5@12c head; cauliflower, 15@20c head; eggplant, 10@12c head; cabbage, 3@7c; sweet potatoes, 30@35c ½ pk.; potatoes, 10@25c ½ pk.; turnips, new, 20@30c ½ pk.; spinach, 5c ½ pk.; watermelons, 40@50c each; raspberries, 10@13c box; cherries, 6@8c quart; apples, 25@35c ½ pk.

County Butchering.—Pork roast, 30c per lb.; lamb, shoulder, 30@35c; do. leg, 20c; do. chops, 35c; beef, boiling, 13@20c; veal, rib roast, 22c; do., steak, 30c; smoked sausage, 28c lb., fresh sausage, 24c lb.; pudding, 13c; whole bacon, 30c; ham, whole, 28c.

Grain Market.—Milling wheat, $2.10 bu.; corn, $1.80 bu.; rye, $1.70 bu.; timothy hay, $18@19 ton; mixed hay, $16@18 ton; wheat straw, $11@12 ton.

YORK PRODUCE MARKETS.

York, Pa., July 9, 1917.

County potatoes have recovered somewhat and sell readily at 25@30c ½ pk. Cherries remain high and are about over. Peas are in limited supply. Eggs are not plenty but have not advanced in price. The past week has again given us several hard rainstorms and much damage has been done to the crops.

Eggs.—32@33c per doz.

Butter.—Country, 38@42c lb.; separator, 40@45c lb. Milk, 8c qt.

Poultry.—Hens, 19@21c lb.; springers, 25@28c lb. Dressed, 75c@$1.50.

Vegetables. — Potatoes, 20@35c ½ pk. Lettuce, 3@6c hd. Cabbage, 2@8c. Beets, 3@4c a bch. Radishes, 5c. Onions, 5c. Lima beans, 30@35c qt. Soup beans, 30@35c qt. Celery, 4@7c a stalk. Tomatoes, 5c ea., 20c a box. Peas, 12@20c ½ pk. Green beans, 18@25c ½ pk. Asparagus, 7@9c a bch. Rhubarb, 5c bch. Turnips, 25@30c ½ pk.

Fruits.—Apples, 25@35c ½ pk., new, 5@8c a box. Cherries, sour, 7@10c box; sweet, 12@18c. Strawberries, 7@10c. Raspberries, black-caps, 10@12c; reds, 15c box. Plums, 15c box.

Retail Grain Market.—Wheat, $2.45; corn, $1.95; oats, 90c; rye, $1.75; bran, $1.90 cwt.; middlings, $2.70 cwt.

Wholesale Grain Market—Wheat, $2.38; corn, $1.55; rye, $1.56; oats, 82c; bran, $34.00 per ton; middlings, $48 per ton.

PHILADELPHIA LIVESTOCK.

Philadelphia, Pa., July 9, 1917.

Receipts for week ending Saturday evening, July 7, 1917:

	Beef Cattle.	Sheep and Lambs.	Hogs
Total for week	3,791	7,436	7,130
Previous week	3,700	7,380	6,507

Calves.—Total for the week, 2,326; previous week, 2,715.

Beef Cattle.—There was a fair demand for desirable calves, prices of which ruled steady under moderate offerings. Other kinds were in light request and prices favored buyers.

Steers, good to choice	$12.25@13.00
Fair to good	11.00@12.00
Bulls	7.75@10.75
Cows, fat	7.75@ 9.15
Fair	6.75@ 7.75
Ordinary	5.00@ 6.50
Calves exceptional lots	15.50@16.00
Good to choice	14.00@15.00
Medium	12.00@13.00
Common	9.00@10.00
Tennessee and southerns	9.00@14.00

Sheep and Lambs.—Sheep were in fair request and steady. Lambs were quiet and without important change. An improved demand is anticipated in the near future.

Sheep.—Wethers, extra, $10.50@11; choice, $9.50@10; good, $8.50@9; medium, $6.50@7.50; common, $8.50@9. Ewes, heavy, fat, $8.50@9. Lambs—Extras, $15.50@16; fair to good, $14@15; common, $12@13.50.

Hogs.—Desirable stock sold fairly and ruled steady under moderate offerings.

Best western, $15.75@16; lights, $14.50@15; roughs, $13@14.

City Dressed Stock.—The market was dull and prices of sheep declined about 1c per lb.

Steers	.15½	@.18½
Heifers	.14	@.17
Cows	.12	@.16
Calves	.21	@.22
Southern and barnyards	.14	@.17
Country dressed	.18	@
Extras	.19	@
Sheep	.21	@
Extras	.22	@
Lambs	.27	@
Extras	.28	@
Hogs	.22	@

PITTSBURGH LIVE STOCK.

Union Stock Yards,
Pittsburgh, Pa., July 9, 1917.

Cattle.—The supply on sale Monday was 110 loads compared with 120 loads the week before. The market ruled slow with prices generally 15 to 25c lower on all grades, the most of the decline being on the better weight cattle. Heifers in fair supply and sold generally about 15c per cwt. lower. Bologna cows sold stronger while the medium and better grades were lower. Bulls in light supply and market ruled firm. Best fresh cows stronger while medium and springers were only steady. Today's cattle supply totaled 120 loads; demand moderate at about steady values.

Good to choice	$12.60@12.75
Good, 1300-1400 lb.	12.10@12.50
Medium to good, 1200-1300 lb.	11.50@11.75
Tidy, 1050-1150 lb.	11.25@12.00
Fair to medium, 1000-1100 lb.	9.75@10.50
Fair, 900-1000 lb.	8.75@ 9.50
Common, 700-900 lb.	7.00@ 8.25
Roughs, half-fat, 1000-1300 lb.	9.00@11.00
Common to good fat oxen	7.50@ 9.00
Common to good fat bulls	7.00@10.25
Common to good fat cows	6.25@ 9.50
Heifers, 700-1100 lb.	7.00@11.00
Bologna cows	5.25@ 6.00
Fresh cows and springers	25.00@90.00

Calves. — Receipts of calves fair and market ruled steady all week at Monday's prices. Receipts of calves today were 1,200 head; market steady.

Veal calves	10.00@15.50
Heavy and thin calves	5.00@ 8.50

Hogs.—The supply during the week has been light and with a good demand the market ruled active and higher all week, the general advance being 40 to 45c per cwt. above Monday's prices. Hog receipts today numbered 35 double-deck loads; market 5@10c lower than Saturday.

Prime heavy	$16.10@.....
Heavy mixed	16.10@.....
Prime medium weights	16.10@.....
Best heavy Yorkers	16.05@.....
Light Yorkers	15.50@.....
Good pigs	14.50@14.75
Common to good roughs	13.75@14.25
Stags	12.50@12.75

Sheep.—The supply of sheep and lambs has been fair and with a fair demand the market has ruled fairly active at steady prices. Sheep and lambs receipts today were 10 double-deck loads; demand good and market active to steady on sheep and higher on spring lambs.

Prime wethers (95 to 100 lb.)	$10.25@10.50
Good mixed	9.25@10.00
Fair mixed ewes and wethers	8.00@ 9.00
Culls and common	4.00@ 6.00
Culls to choice yearlings	8.00@13.00
Spring lambs	11.00@16.25

PHILADELPHIA HAY AND GRAIN.

Philadelphia, Pa., July 9, 1917.

Baled Hay and Straw.—Receipts 264 tons of hay and no straw. Desirable grades of both hay and straw were steadily held, but demand was only moderate.

Timothy hay, No. 1, large bales, $20.50@21; No. 1, small bales, $20.50@21; No. 2, $17.50@18.50; No. 3, $15.50@16.50; sample, $11@13. Clover mixed hay, light mixed, $17.50@18.50; No. 1 do., $16.50@17.50; No. 2 do., $14.50@15.50. Straw, No. 1 straight rye, $14@14.50; No. 2 do., $13@13.50; No. 1 tangled rye, $13@13.50; No. 2 do., $11.50@12; No. 1 wheat straw, $11.50@12; No. 2 do., $10.50@11; No. 1 oat straw, $11.50@12; No. 2 do., $10@10.50.

Bran.—The market ruled firm under light offerings and a fair demand and prices of spring bran advanced 50c per ton.

Car lots, including sacks: Soft winter bran, in 100-lb. sacks, per ton, $35.50@36.50; spring bran, in 100-lb. sacks, per ton, $34.50@35.50.

Corn.—No. 3 yellow, $1.91½@1.92; No. 4 yellow, $1.79½@1.80.

Oats.—No. 2 white, 78@78½c; standard white, 77@77½c.

Rye.—Nominal.

PITTSBURGH HAY AND GRAIN.

Pittsburgh, Pa., July 9, 1917.

Hay.—Receipts of hay only normal while the demand is fair and readily takes care of all arrivals at present quotations. Market in good shape.

No. 1 timothy, $17.75@18.25; No. 2 timothy, $15.50@16.50; No. 3 timothy, $14.50@15; No. 1 light mixed, $15.50@16.50; No. 1 clover mixed, $16.00@16.50; No. 2 clover mixed, $14.00@15.00; No. 1 clover, $16.00@16.50; No. 2 clover, $14@15.

Straw.—Receipts of wheat straw in excess of demand. Market on this grade dull and lower. Oat straw wanted and can be readily placed at quotations. No. 1 oat, $10.75@11; No. 2 oat, $10.50@10.75; No. 1 wheat, $10.75@11; No. 2 wheat, $10.25@10.50; No. 1 rye, $11.50@12.00; No. 2 rye, $10.50@11.

Ear Corn.—Owing to the very limited supply arriving on this market the demand has increased somewhat and has advanced prices. No. 2 yellow, $1.91@1.92; No. 3 yellow, $1.87@1.91; No. 2 high mixed, $1.89@1.90; No. 3 mixed, $1.87@1.88.

Oats.—Supply light and considerably less than the demand. Market higher. No. 2 white, 78½@79c; standard, 77½@78c; No. 3 white, 75½@77c; No. 4 white, 75½@76c. Sample (white oats), 73½@75½c.

NEW YORK HAY AND GRAIN

New York City, July 9, 1917.

Feed.—Prices of all grades of feed have advanced in a rather sensational manner and the upturn has carried values to new high levels for the moment. City grades seem to be the leaders and from all accounts the demand has improved materially both for spot and future shipment. Western qualities are also meeting with an improved inquiry. Much of this strength is attributed to the fact that the supply is being reduced and the mill output the past few weeks has been considerably curtailed. The news coming in continues to tell of good pastures, but this, like the weakness in some other feeding grains, seems to be entirely discounted. Quotations (per ton): Shipment Western spring in 100-pound sacks, $34.50@35.00; standard middlings, $41.00; flour, in 100-pound sacks, $51.00 to arrive; red dog to arrive, in 100-pound sacks, $55.00; city feed bulk bran, $34.40; 100-pound sacks, $36.00; heavy feed in bulk, $44.40; 100-pound sacks, $46.00; red dog, $57.00; flour, $55.00.

Hay and Straw.—Trade continues quiet on medium and low grade hay, with considerable accumulation of low grade, small baled Canadian. No. 1 timothy firm; rare sales large bales up to $22.50 and small up to $22, but such business very exceptional.

Hay—No. 1, $22; No. 2, $19@20; clover, $17@18.

Corn.—No. 2 yellow, $1.94. Last year, 90⅜c.

Oats.—No. 2 white, 79c. Last year, 46¼c.

Rye.—$2.39. Last year, $1.08.

ELGIN BUTTER MARKET.

Elgin, Ill., July 9, 1917.

Butter, 37½c bid; no offerings.

PHILADELPHIA DAIRY MARKET.

Philadelphia, Pa., July 9, 1917.

Butter.—The market ruled firm at the recent advance, but wholesale trade, as usual on the last day of the week, was quiet. Fancy solid-packed creamery brought outside rates, while the under grades were well cleaned up at inside figures. Fancy prints were firm, but unattractive stock was little wanted.

Western, fresh, solid-packed creamery, fancy specials, 42c; extra, 40@41c; extra firsts, 39c; firsts, 38½c; seconds, 37½c; nearby prints, fancy, 43c; average extra, 41@42c; firsts, 39@40c; seconds, 37½@38c; special fancy brands of prints jobbing at 46@49c.

Cheese.—Demand was equal to the limited offerings and the market ruled very firm.

New York, full cream, fancy, new, 24¼c; specials higher; do. choice, new, 24c; do. fair to good, new, 23@23½c.

NEW YORK MILK MARKET.

New York City, July 9, 1917.

The dealers are having little difficulty in meeting the rising demand. Producers anxious to obtain the increased July rate are offering more than is required. The figures of receipts of fluid milk indicate a new maximum for the New York City market. The public has become accustomed to rising prices and has taken the increase in the retail price of milk without special objection. The League rates to the producer of Grade B (barn score 55) in the 26-cent zone are $2.10 a hundred for 3 percent milk; $2.31, or 4.9 cents a quart for 3.6 percent milk; and $2.45 for 4 percent milk.

The receipts of milk and cream in 40-quart cans for the week ending July 7 were as follows:

Railroad.	Milk.	Cream.
Erie	48,690	4,005
Susquehanna	6,805	58
West Shore	17,456	2,477
Lackawanna	70,290	4,810
N. Y. Central (long haul) including Rutland	133,963	5,458
N. Y. Central (short haul)	26,980	55
Ontario	40,729	6,272
Lehigh Valley	51,794	2,635
Homer Ramsdell Line	3,927	77
New Haven	6,305	162
Pennsylvania	23,286	710
Other sources	1,450	65
Totals	429,675	26,784
Same week last year	396,226	23,185

TOBACCO MARKET.

From all points come reports of insufficient stocks and a market more nearly depleted of supplies than in many years. Practically all auction markets are closed for lack of business, the only transactions at such points being occasional private sales. Dealers who have something to offer are asking almost any price, as high as $45 per cwt., for selected packings of the 1915 product. Small amounts of the 1916 crop and much smaller quantities of the 1909 growth are also firmly held for what seems prohibitive prices. To the grower it all means that there is a buyer waiting for every pound that is produced this year and that no stretch of imagination could picture a much brighter outlook as to demand and prices. Stocks depleted, a short acreage highly probable and with all competing products waning it would be preposterous to suppose any but high and wholly satisfactory prices for the 1917 product! It is now certain that buyers will not even propose prices anywhere near on a level with those early in the selling season last year. Growers will be little interested in propositions below $18 per cwt. and it is probable that $20, and upward will be paid. They will remember the unfortunate early selling experience of last year and will accordingly be inclined to spurn early offers no matter what they may be, believing that prices will show further advances as the selling season progresses. The newly transplanted crop is now taking hold in the soil and cultivation is the order of the day. Belated somewhat by the late season, close attention will to some extent make amends for the delay and with favorable conditions from now on maximum results are possible.—H. F. Tweed, July 9.

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Cutaway CLARK Single Action Disk Harrow

Disks are forged sharp; has reversible gangs, separate levers, dust-proof oil-soaked hardwood bearings. Sizes for one to four horses. Also with extension head. Weight boxes built in. No tongue truck necessary. Perfect balance, light draft.

Write for new catalog and free book "The Soil and Its Tillage;" also for name of nearest dealer.

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Maker of the original CLARK Disk Harrows and Plows.

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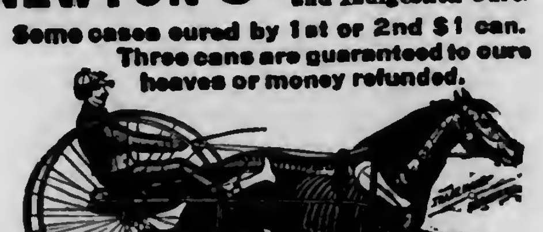
Some cases cured by 1st or 2nd $1 can. Three cans are guaranteed to cure heaves or money refunded.



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Safe. Most economical. Excellent for Cattle and Hogs. $1.00 per can at dealers, at same price by parcel post.
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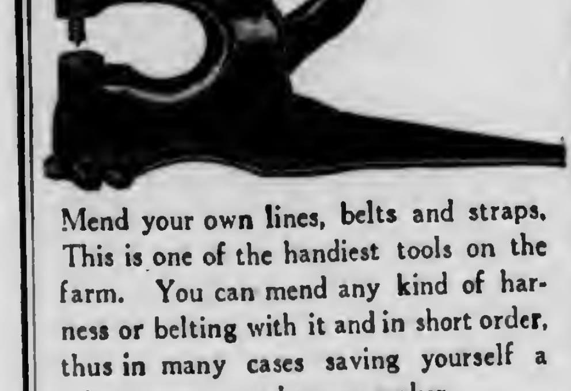

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Use ordinary tubular rivets, so simple any boy can operate it. Needs no adjustment. It will save you many dollars in money and avoid the loss of time during the busy season.

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PENNSYLVANIA FARMER
261-63 S. 3rd St., Phila., Pa.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Congestion of Bowels.—Kindly advise me what to do for my calves. I have four head under six months of age. While in pasture they were exposed to a hail storm and since then they appeared to be very weak, bowels were too loose and they are inclined to eat rubbish and chew the hair of horses' tails. I have been raising calves for a great many years and have never had a similar experience. M. K., Princeton, N. J.—Feed your calves one part ground corn, two parts dry bran and three parts ground oats, twice a day. Mix together equal parts cooking soda, sub-nitrate of bismuth, ginger and gentian. Give each calf a dessert spoonful, three times a day. Avoid allowing your calves to be exposed to cold rain storms and shelter them at night, especially if the weather is cool.

Itch.—I have a young cow that appears to be healthy, but is thin in flesh. She rubs so much that the hair is coming out in spots all over the body. I cannot find any lice on her. B. L. W., Herman, Pa.—Wet itchy parts of body with one part bichloride mercury and 500 parts water, once a day. If you believe she has lice, apply a small quantity of mercurial ointment to fore and upper part of neck and rump, twice a week. Itchy cattle should be groomed once or twice a day, for they may scratch on account of their coat being filled with dust and dirt. Give her one ounce cooking soda, ½ ounce of ground gentian at a dose in feed, two or three times a day.

Heaves.—I have a mare that coughs occasionally and lately has shown symptoms of heaves. She has a good appetite and appears to be well. Is there anything I can give to ward off the heaves? A. M. M., Montgomeryville, Pa.—Feed no clover, or dusty, musty, badly cured fodder of any kind. A little well-cured timothy once a day is all the roughage she should have. If she is a ravenous eater and pot-bellied, bed her with shavings or sawdust. Grain or grass is the best summer feed, grain and roots the best winter feed for an animal in her condition. Give her one dram fluid extract lobelia, one dram muriate ammonia, ½ dram fluid extract nux vomica and three drams Fowler's solution at a dose in feed, three times a day.

Indigestion.—I have a boar pig that bloats more or less after each meal. He eats hearty, but at times acts very dumpish. Can I give him anything that will relieve the bloat? B. A. T., Mercerville, Pa.—Mix together equal parts of cooking soda, ginger, gentian and powdered charcoal and give pig a teaspoonful at a dose, twice a day.

Pica—Licking Disease.—My young calf is not thriving but has a good appetite. She is especially fond of chewing rags, rubbish, sticks, etc. Elizabethtown, Pa.—Mix together one part ground nux vomica, one part air slacked lime, one part powdered sulphate iron and three parts of ground gentian, and give a teaspoonful or two at a dose in ground feed, three times a day. Also, feed your calf a greater variety of feeds.

Bloody Milk.—Is there a cure for a cow that is inclined to give bloody milk? I have one that will be all right for three or four days, and then commence to give bloody milk. B. K. X., Fairchance, Pa. — Rough milking, too scant bedding and other injuries cause cows to give bloody milk. Remedy the ailment by a removal of the cause. Then she will not give bloody milk.

Indigestion—Weakness. — I have a mare that had a sick spell last summer that reduced her in flesh. Since then she has been thin. She eats quite a lot of food, but is weak. A. M., Waterford, N. J.—Give your mare one dram fluid extract nux vomica, one ounce tincture gentian, one ounce tincture cinchona and ½ oz. Fowler's solution at a dose, either in feed or drinking water, three times a day. She should be fed plenty of grain and grass that is exposed to sunlight.

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Can you imagine paying low prices for dependable tires? Tires that you know will not puncture under ordinary conditions and will travel a hard, rough road with your confidence that they will hold up? OUR improved DOUBLE TREAD TIRES are guaranteed to perform such duties—and yet they are low in price.

The following are prices of our guaranteed tires:—

Sizes	Price	Sizes	Price
30x3	$6.50	36x4	$11.00
30x3½	$7.50	34x4½	$12.00
32x3½	$8.50	35x4½	$12.00
33x4	$10.50	36x4½	$13.00
34x4	$10.50	37x4½	$13.50

We will retread your worn tires—no matter what condition, at these prices and guarantee them.

Sizes	Price	Sizes	Price
30x3	$5.50	36x4	$8.50
30x3½	$6.00	34x4½	$8.50
32x3½	$7.00	35x4½	$9.00
33x4	$8.50	36x4½	$9.00
34x4	$8.50	37x4½	$10.00

Add $1.00 to the above for Non-Skid Tires

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837 N. Broad St., Philadelphia, Pa.
Send for descriptive circular and price list. Good territory open for agents.

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Registered Holstein Bulls For Sale
Grandson of King Segis
Bull No. 13. Born Dec. 2-1916.
Sire—"Sir Inka Prilly Segis" No. 80914 a son of the famous "King Segis" out of a 30-lb. granddaughter of the noted foundation cow "Prilly." Dam—Queen Nazil De Kol Segis, record, 20.02 lbs. butter, 559.90 lbs. milk in seven days.
He is a splendid individual; more white than black. He traces to "King Segis" on both sides of his pedigree. The first check for $70 gets him.
We have other bulls for sale at various prices. Write for pedigrees and photographs.
WINTERTHUR FARMS, Winterthur, Del.

SPOT FARM
Spot Farm Holsteins $15 to $20
7-8 Holstein heifer calves $15 to $20 each, express paid in lots of five. 40 high grade holstein heifers being bred to 31 lb. bull $50 each. 1 carload of registered cows due in Sept. 1 carload of registered heifers. Registered bulls, and high grade cows.
JOHN C. REAGAN, Tully, N. Y.

Auray Farms
Are offering exceptional bargains in young Purebred Holstein Bull Calves—$100 up. Crated—Delivered—Guaranteed! Bred from a Full List of A. R. O. dams, and sired by our King Lyons Fayne, whose dam is a sister of the World's Record 50 lb. Cow. Largely white and splendid individuals.
Write for charts and particulars to
Irving M. Avery, Mgr., Sparta, N. J.

"NO HORNS"
Naturally Polled bull calves, sired by a son of the WORLD'S RECORD senior 4 year old, 32.8 lb. in 7 days, 133.2 lb. in 30 days and 1294.7 in 365 days, at prices from $100 up. Descriptive circular for stamp.
GEO. E. STEVENSON & SONS, Clarks Summit, Pa.

High Grade Holstein Calves
Either sex, beautifully marked, $20 each. Reg. Holstein cows, heifer and bull calves, shipped anywhere.
F. H. WOOD, BOX A, CORTLAND, N. Y.

Holstein Sale Sept. 20
of registered stock. Write for catalog.
BOB SEEDS, BIRMINGHAM, PA.

Holsteins Registered 4 year old bull that has A. R. O. daughters, 2 registered calves, 2 registered 2-year-old heifers; also 3 grade heifers; Prices right. PLUMLYN FARM, FAIRVIEW VILLAGE, PENNA. (near Norristown.

Reg. Holstein bull calf, born March 31st, 1917. Dam, a fine cow, has just made 17 lb. 3 year old record. Sire is son of 23 lb. cow; price right. Inquire of J. B. Winkelblech, Lewisburg, Pa.

Guernsey Bull Calves from 4 to 10 mo. old, sired by a son of Begalore 10101 whose sire was Imp. Mashers Galore 8572. C. A. WRIGHT & SON, CANTON, PA.

Holstein Calves 5 Registered heifers and 7 bulls, from a 30-lb. sire. Write for prices and pedigrees. WALTER M. CRUTTENDEN, Wilkes-Barre, Pa.

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Jersey Calves Both sexes. Fine stock of the most noted pedigrees in the world. FRED G. W. RUNK, ALLENTOWN, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Reg. Jerseys Cows, heifers & calves, priced right. CHARLES G. FOSTER, P. O. Box 173, Morristown, Morris Co., N. J.

Registered Holstein bull calves from a ton show bull and heavy milking dams. Best breeding. Write I. V. OTTO, CARLISLE, PENNA.

Poultry

CHICKS White Leghorns, 9c. Barred Rocks and R. I. Reds, $12.75 per 100. Circulars. E. R. HUMMER & CO., R. D. Y., Frenchtown, N. J.

S. C. White Leghorns Eggs for hatching. Send for catalog describing our mating for this season. Fertility guaranteed. Hidri View Farm, Box 17, Mt. Bethel, Pa.

Golden or Silver Campines 30 eggs for $2, 24 fertile eggs guaranteed. I. R. TANGER, York Springs, Pa.

Chicks S. C. W. Leghorns 6c & up. Money refunded for dead chicks. Circular free. W. A. LAUVER, McAlisterville, Pa.

LOOK! BABY CHICKS $9 a 100 up
Live Delivery Guaranteed.
Odds and Ends, $9 a 100. Leghorns, $10 a 100. Barred Rocks, White Rocks, White Wyandottes, Anconas, Black Minorcas, Light Brahmas, Buff Orpingtons, R. I. Reds, $12 a 100. White Orpingtons, $18 a 100. Campines, Black Orpingtons, Speckled Sussex, Buttercups, $20 a 100. 10-day old S. C. White Leghorns, $10 for 50, $90 for 500. Eggs, $7 a 100 up. Catalogue Free, Stamps appreciated.
NABOB HATCHERIES, - - GAMBIER, OHIO.

The "MOHEGANITE" Strain of S. C. White Leghorn
"3 HENS IN 1"
from trapnested ancestry recording 180 to 250 eggs in pullet year. Pound Pullets 90c and $1. Yearlings $2 to $2.50.
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Cut Prices on Cooley Chicks
15,000 ready to ship each week. White Leghorns, $9 per 100. Pure bred R. I. Reds, Barred Rocks, $14 per 100. Safe delivery guaranteed. Other varieties. Write for book.
COOLES FARMS, Frenchtown, N.J.

LOOK! DUCKLINGS
Woodford strain of White Egg Pekin Ducklings. Flock average about 175 eggs per duck per year. All white, no green or tinted eggs, $7 for 25; $13.50 for 50; $26.00 for 100.
NABOB HATCHERIES, - GAMBIER, OHIO.

S. C. W. Leghorns "Tom Barron Strain." The large kind, prolific layers. Breeding stock for sale. 1 1-2 lb. cockerels from imported high record sires, $1.25 each, five or more $1 each. These cockerels will cost you $10 next season. Order from adv. IVYWOOD POULTRY FARM, Box 71 A. Avondale, Chester Co., Pa.

LOOK! 3000 Yearling Hens
S. C. White Leghorns from prize winning laying stock. Fine for breeding. $17 for 12, $32 for 25, $60 for 50, $120 for 100. Catalog free, Stamps appreciated.
NABOB POULTRY CO., - GAMBIER, OHIO.

140,000 Chicks Sold We cannot accept any more orders for this season. Our chicks are all engaged. We thank all our customers for their patronage. Will have a capacity of 250,000 chicks for 1918. D. W. GOODLING, Prop. KEYSTONE HATCHERY, RICHFIELD, PA.

S. C. White Leghorn baby chix, pullets, hatching eggs, 260 egg strain. Long deep bodies, yellow legs & beaks & large red lop-over combs. A. R. GRAVES, R. D. 2, REXVILLE, N. Y.

CHICKS 15c each, $13 per 100; Silver, White and Columbian Wyandottes, S. C. Red, Ducklings, Rouen, and Runner, 22c each, $20 per 100. Aldham Poultry Farm, R. 39, Phoenixville, Pa.

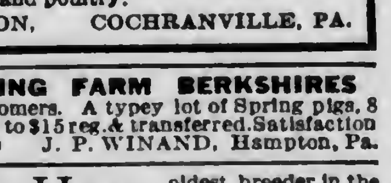
The Business Farmer's Hen for eggs, meat and winter layers. Trapnested White Orpington eggs, chicks and stock. Honest values and square deal guaranteed. STEVENS RELIABLE YARDS, Box P, Lyons, N. Y.

Eggs 13 $1; 30 $2; Purebred Rocks, Wyandottes, Reds, Hamburgs, Leghorns; 19 varieties. Also Brahmas, Houdans, Orpingtons, Campines. 35 years. Catalog. S. K. MOHR, COOPERSBURG, PA.

Swine

Berkshires of Size and Quality
The boar, Majestic Mammoth 229590, weight 407 lbs. at 7 months old was bred and grown by us. When you want the best and want them big, write to—
C. H. Carter, Whitguern Farm, West Chester, Pa.

HAMPSHIRES
Bred gilts for fall farrow, pigs any age, free circular. Registered Guernsey Bulls, from $35 up.
Locust Lawn Farm
Bird-In-Hand.
Box 2, Lanc. Co., Pa.



LARGE BERKSHIRES AT HIGHWOOD
Letter from H. M. Swarr, Lancaster, Pa. "The hogs came and are even better than I expected. The boar is a monster; the longest I ever saw. If all breeders would send out such Berkshires, it wouldn't be necessary to advertise the breed."
H. C. & H. B. HARPENDING, Box 45, Dundee, N. Y.

Reg. P. Chinas, Berkshires, C. Whites. Large strain, all ages, mated not akin. 8 weeks pigs, bred sows, service boars, Collie and Beagle dogs. Grade Guernsey calves and poultry.
P. F. HAMILTON, COCHRANVILLE, PA.

SILVER SPRING FARM BERKSHIRES make satisfied customers. A typey lot of Spring pigs, 8 to 12 wks. old at $12 to $15 reg. & transferred. Satisfaction guaranteed. Write J. P. WINAND, Hampton, Pa.

Mulefoot Hogs oldest breeder in the state. Pedigreed stock for sale. SAMUEL JOHNS, Wilmington, Ohio. Sec. D.

High Grade Reg. Berkshires for sale. Satisfaction guaranteed or no pay. W. S. JOHNSON, BERWICK, PA.

CHESTER WHITES and POLAND CHINAS All ages. Registered free. Jersey bulls. J. A. BOAK, ROUTE 4, NEWCASTLE, PA.

Reg. O. I. C. Swine Spring pigs and bred gilts. HIDRI VIEW FARM, Mt. BETHEL, PA.

O.I.C. & Chester White Choice spring pigs; brood sows; service boar. Fred Bryan & Son, Star Route, Mansfield, Pa.

O. I. C. Pigs Silver strain from choice sires. Ready to ship, prices reasonable. BRUBAKER BROS., MIFFLINTOWN, PA.

Durocs 3 choice service boars & fall boars. Gilts will be bred for Aug. & Sept. Spring pigs mated not akin. Ira. D. Jackson, R. 10, Van Wert, O.

Large Berkshire Swine Registered High Grade. Prices reasonable. Write HOME FARM, CENTER VALLEY, PA.

Berkshires high class pigs for sale, July, Aug. & Sept.—Masterpiece blood cheap. W. J. Mc CONNELL, OXFORD, PA.

TELL the advertiser you saw adv. in Pennsylvania Farmer.

COUNTY NOTES

McKean Co., Pa., (N.) July 2.—Some good weather thru June altho too wet to get in some corn. Some very hard electric storms. Potatoes are looking good. Very few bugs so far. No tent caterpillars this year at all. Apples will be a fair crop. About four times as much as usual buckwheat has been sowed. The boy gardening club and boy scouts of Bradford are gardening about six acres of land near the city. Farm work is behind in everything owing to wet season. Haying will be two weeks late.—R. C. Fuller.

Huntingdon Co., Pa., (C.) June 30.—Weather has been much warmer the past week; also had a number of local showers which were much needed. All live stock doing well. Poultry dying from cholera in some sections. Cherries and apples are scarce; will be some peaches, plums and pears. Hay will be short. Most grain doing well so far. Corn growing very well. Wheat, $2; corn, $1.75; butter, 25c; eggs, 30c. Preparations being made for a big harvest. A good acreage of beans and buckwheat being planted. Labor scarce at $1.75@2 per 10-hour day. Health good.—C. S. G.

Lawrence Co., Pa. (W.C.) June 25.—The 17-year locust or Periodical Cicadia is now emerging from the ground in Western Pennsylvania, and may do serious damage, altho it is yet too early to determine its activity. A large gathering of farmers visited the farm of Rev. Jordan on June 19 to study his farming operations on 300 acres of ground. An immense tractor does the plowing and disking, two silos store a large part of the corn crop. He disks for oats and rye, raises no wheat and seeds down to grass after oats. The chief attraction of the day was a herd of 250 fat Hereford beeves ready for market. They were purchased as thin feeders last summer in Texas. They were fattened on silage and shelled corn, and were followed by 80 hogs. Frosty and wet weather have retarded farming operations. Heavy rain and wind storms have been common. Many barns have been burned, orchards damaged and roads washed. Corn cannot be cultivated on level ground because of rains. Other crop prospects are generally good. A large acreage of wheat and rye was seeded last fall and both wintered well. Oats doing well. Hay looks good. Small fruits will be abundant but apples, peaches and pears will give short crops. The drouth of last summer combined with a heavy crop appears to have prevented development of fruit buds this year. Whatever the cause, the bloom was sparce. Butter, 50c lb; eggs, 40c doz; potatoes, $1 pk; new potatoes, $1.20 pk; flour, $3.50 per sack of 48 lbs. Large gardens planted on open grounds around town and cities which will go far in supplying owners' tables.—J. C. M. Johnston.

New Jersey Crops.—Ample warmth prevailed during week ending July 3, to insure the best condition of crop growth and to mature grass, rye and wheat for harvest from central counties southward. Some moderate deficiency in rain in southern counties caused apprehension, but sufficient moisture has since fallen. As a rule, crops are in a satisfactory condition. Wheat has gained steadily, and will yield better than appearances indicated several weeks ago. Corn will be a large crop and thus far is about as good as could be desired; it is being cultivated for the last time in central sections, but in the far north it has been too wet, and weeds are gaining. Oats are a fine crop, some reports being that they were never better than this year. The harvest of rye and haying are in full swing in central counties. Peaches still indicate a large yield, but apples and pears will be fewer than an average crop. The condition of white and sweet potatoes is good and digging in southern counties has about equalled expectations. A large acreage of buckwheat is being prepared.—G. Harold Noyes, Meteorologist.

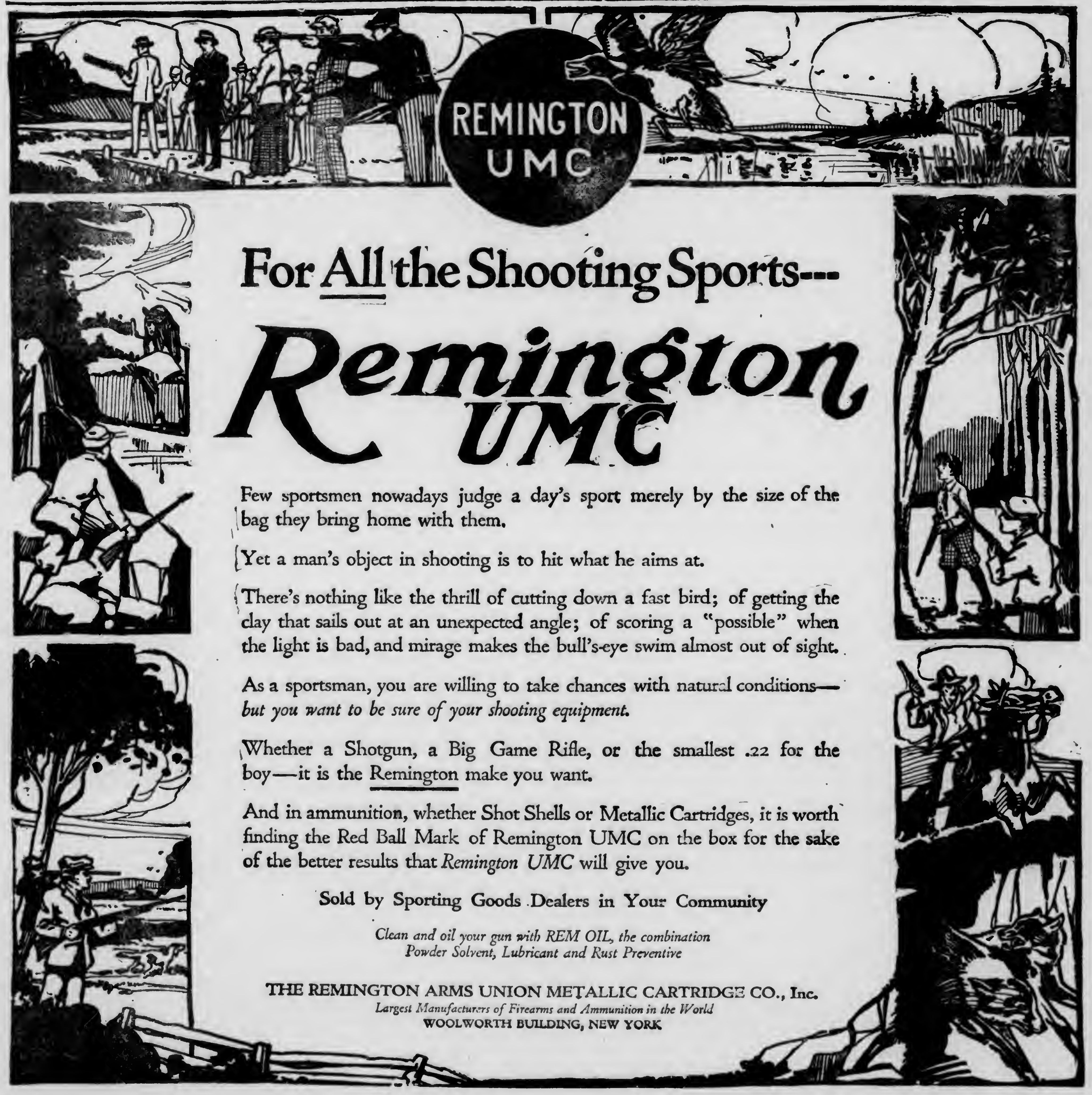
EASTERN STATES EXPOSITION

Extensive plans are being made for the Eastern States Exposition and Dairy Show to be held at Springfield, Mass., October 12-20. The dairy show will be a big feature, augmented with a full classification of beef cattle, sheep and swine. The annual convention of the Berkshire Breeders' Association will be one of the important events. The horse department offers premiums on draft, saddle and light harness animals of all weights. Another national body meeting with this show will be the National Association of Vegetable Growers, insuring an excellent vegetable show. Entry blanks and full information may be had by writing Mr. John C. Simpson, Eastern States Exposition, Springfield, Mass.

NATIONAL DAIRY SHOW PREMIUMS

Premium lists covering Dairy Cattle, Dairy Products and the Horse Fair at the eleventh annual National Dairy Show, to be held at Columbus, O., October 18 to 27, 1917, are now out. Copies may be obtained upon request addressed to Manager National Dairy Show, Peoples Life Bldg., 130 N. 5th Ave., Chicago, Ill.

Field Management of Alfalfa. — A new book on alfalfa has just come from the press. The volume is entitled "Field Management of Alfalfa", and is a complete treatise on the subject. The work comprises some sixty pages and is profusely illustrated with excellent half-tone engravings. Anyone who is at all interested in growing the Queen of Forage Crops should secure a copy of this informative book which is quite out of the ordinary. It is free upon request. The author is A. M. TenEyck, director of the agricultural extension department, Emerson-Brantingham Implement Company, Rockford, Illinois.



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And in ammunition, whether Shot Shells or Metallic Cartridges, it is worth finding the Red Ball Mark of Remington UMC on the box for the sake of the better results that *Remington UMC* will give you.

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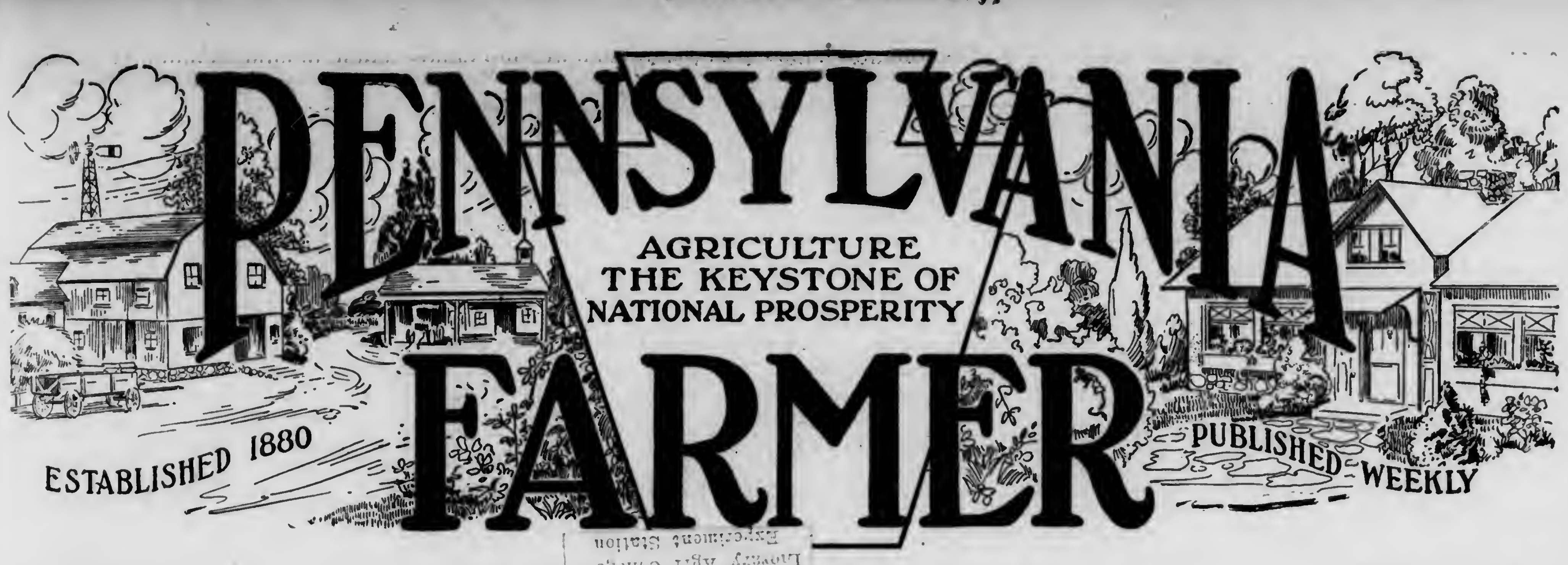

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COST OF MILK PRODUCTION

Pertinent Problems in the Present Milk Situation

By FRANK APP
N. J. Experiment Station

Since 1914 the cost of producing milk has advanced almost 50 percent. When we consider that most farmers in the Northeastern states produce milk, this fact is of vast importance to the farmer. Few know what it costs them to produce this cosmopolitan product. Some have decided that it was costing more than the price they received and are selling their cows. Others are hesitating, not knowing what to do. The remainder, most of whom produce market milk as their main industry, will not be quick to change.

In Sussex County, New Jersey

In 1915 the New Jersey Experiment Station made a farm survey of Sussex County, N. J. This county lies in the northern part of New Jersey adjacent to the New York state. This district is admirably adapted for dairying, and has much natural hay and pasture land essential to the industry. It possesses the necessary qualifications for a profitable dairy region. Sussex County is one of the best dairy counties in the whole United States. The average production of milk per cow was over 6,000 pounds; consequently it should be able to produce market milk as cheaply as any one community. The table on page 5 shows a comparison of the cost of milk production for 160 herds having 3,860 cows in Sussex County in 1914 and 1917. All of the farms in this study derived 98 percent or more of their receipts from cows.

The table shows the actual cost of production for 160 dairy farms in 1914 taken from the survey records. Everything was charged at farm values or farm cost. The labor and cattle values for May, 1917, were obtained from Mr. P. B. Bennetch, County Demonstrater, while the cost of concentrates was obtained from feed dealers in the county. Cost for 1917 was adjusted to meet the change in conditions. The value of manure and ensilage was estimated.

Some Reasons for Low Price to Producers.—The farmer always has produced milk at a low margin of profit. Competition in the past has been keen. More market milk was produced than was always demanded by the consumer. Many farmers keep cows to use pasture, corn stover, unmarketable hay, and such forage which otherwise could not be sold. Others feel the need of manure to raise crops. Dairying also affords a more uniform supply of labor thruout the year. These conditions have all assisted in a large production and a low price to the producer.

Effect of High Priced Feed.—With the sudden increase for feeds, especially concentrates, some dairymen find the situation quite critical. As a result, many farmers are selling some of their cows, others are selling whole herds, while the remainder are trying to make ends meet as best they can. A man may spend a lifetime in building up a business, but if he does not follow the times, the sheriff may change it in a day. The situation is indeed alarming. Shall the farmer keep his cows until the cost of feed decreases or the price of milk increases?

Factors to be Considered

The need of manure is frequently a cause for the cows on the farm. The idea expressed by some dairymen is somewhat as follows: "Keep cows to make manure, to grow crops, to feed cows, to make manure." When such is the case, the farmer with cows will never find them profitable, unless a profit is derived from the milk. It has been fully demonstrated that it is possible to raise crops and maintain fertility with rotations, sods, green manures and commercial fertilizers. However, the present situation, because of war conditions, threatens a commercial fertilizer shortage. Should this occur, stable manure would be far more indispensable than at present. If cows are not kept, other stock could take their place, but they might be still less profitable.

Farmers located on soils and conditions poorly adapted to dairying had better discontinue the industry, for with them cash crops would be more profitable. Many cows in the past have been kept under conditions that made it almost impossible to make money from milk. To sell these cows and herds will be a good thing for the milk industry as well as the farmer who formerly kept cows under such conditions. It is unwise to compete with your neighbor who is so situated as to under-bid you. You would not enter a horse race with a 1,700-pound draft horse, but would put him in a draft competition. On the race track such an animal would be a handicap to the individual and contest.

Thus the elimination of such dairymen will place the whole industry on a better foundation and allow a comfortable living for the man who should produce milk. When such herds are sold, it is encouraging to the milk industry. But should farmers begin to sell cows in regions best adapted to dairying, then conditions would become alarming when considered from the national point of view.

According to the present prices of feed and labor, most farmers are losing money in the best dairy regions. These men should not sell their herds but can afford to keep their cows until the critical period has passed. So soon as the milk supply is diminished to the point where fresh milk will be difficult to procure, the price will rise to meet the condition. The dairymen must remember that all farm products have their profitable as well as unprofitable seasons. In 1915 potatoes sold for 25 cents a bushel; in 1916 $3 and $4 a bushel. In 1915 cabbage as well as other vegetables could hardly be disposed of, while in 1916 they brought abnormally high prices. The man who is so situated that he can produce an article under most advantageous conditions should continue to produce the product even tho he has a slight loss occasionally.

Consequently, farmers located in dairy regions which can produce milk most cheaply should not sell any but poor cows at the present time because of high price of feed and labor. Besides maintaining their

(Continued on page 7

MAKING MILK CHEAPLY. DAIRY HERD ON ALFALFA PASTURE WALTER SHUTE FARM CUMBERLAND CO., N.J.

Build Your Foundations of Concrete

Instructions for Building Foundations Which Will Last

Every building should rest upon a good foundation. Concrete is strong, durable, moderate in first cost, easily mixed and placed and can be adapted to irregular excavations.

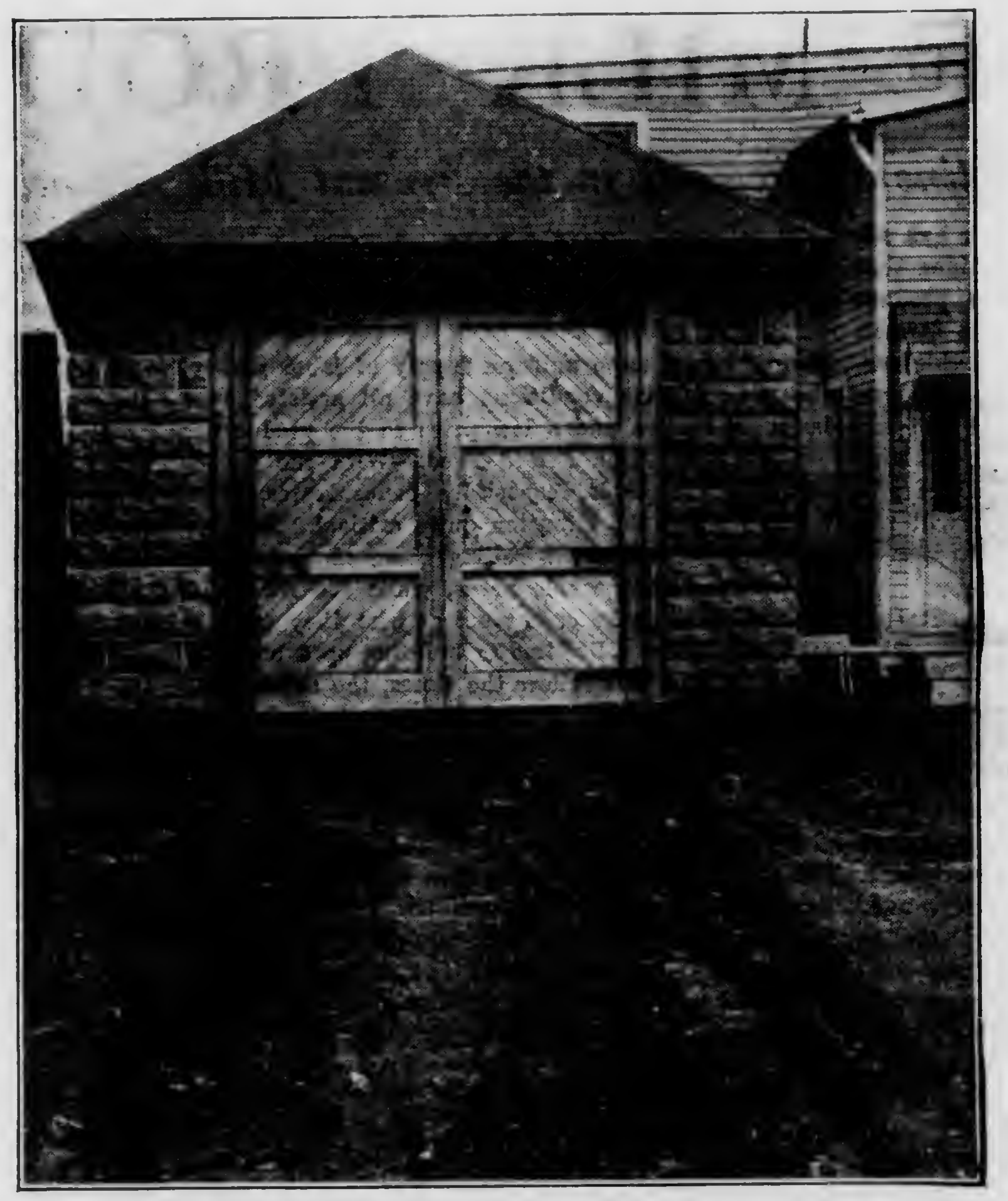
In basement walls it is necessary that the foundation be watertight. Watertightness of concrete is secured by proportioning materials so that voids or air spaces are filled, then by so mixing and placing the concrete that greatest possible density is secured. Finally, the concrete must be protected after placed to prevent it from drying out.

Frost may enter the ground from 2½ to 6 feet, and foundations should be started below possible frost penetration. When firm soil is not found at the depth considered necessary to meet other conditions, excavating should be continued until good, firm soil is reached or else a wider footing be used to distribute the load over a greater area. For barn walls a footing two feet wide and one foot thick is generally sufficient, while footings 12 inches wide and 8 inches thick will serve for small farm buildings such as hog, poultry and dairy houses. Wall thickness is governed largely by the type of building. Walls 12 inches thick for basement barns are usually safe. Small structures such as poultry houses, hog houses and dairy buildings do not require walls more than 6 to 8 inches thick.

Heavy walls below ground that are to serve as a foundation only, that is, which are not intended to enclose a basement or cellar, should be built of a 1-2½-5 concrete. This means a mixture consisting of 1 sack of portland cement to 2½ cubic feet of clean, well-graded sand to 5 cubic feet of well-graded pebbles or broken stone. If walls must be watertight, then a 1-2-3 or 1-2-4 mixture should be used.

When the soil is firm so that the walls of the trench are self-sustaining, it is sometimes unnecessary to use forms for the portions of the work below ground. Excavate the trench with true vertical sides, then lay boards or planks along and across the trench so that when placing and spading concrete earth will not be knocked down from the trench sides into the concrete. Forms for foundation work are simple to build and can often be constructed by using rough lumber lying around the farm. Of course they should be built so that a fairly smooth face can be secured on the concrete work, especially the side that is to be exposed in a basement or cellar. In constructing forms it is always well to use as few nails as possible so that forms can be taken down with the least amount of hammering, thus preventing possible injury to the concrete. Forms should be set up so the sides are truly vertical and well braced in position to prevent bulging out of line when concrete is placed.

For cream separators, gas engines and similar machines, concrete is an ideal foundation material. The depth to which such foundations should extend depends upon the size of machine and the bearing power of the soil. It is necessary, when setting forms, to arrange first for placing the anchor bolts to which the engine or machine is to be attached to the foundation, because these bolts must be embedded in the concrete so that the exposed ends will be in the same position on the top of the finished foundation as are the corresponding bolt holes in the bottom of the engine or machine.



THIS CONCRETE BLOCK GARAGE NEEDS A CONCRETE ROADWAY;

When mixing concrete for foundations, a quaky mixture should be used. This means one wet enough to flatten out in the pile when distributed but not containing enough water so that it will flow or allow the pebbles or broken stone to separate from the sand-cement mortar when the concrete is being handled.

It is seldom necessary to reinforce concrete foundations unless they are to be subjected to excessive side pressure, vibration or other unusual strains. Sometimes reinforcing is used in long foundation walls extending some distance above ground, to prevent cracks in the concrete due to its expansion from temperature changes.

Frequently, field stones from 4 to 6 inches in diameter may be used in the foundation trench when constructing concrete foundations. If used they should be distributed about in the foundation trench after a layer of concrete has been placed, the field stones being laid so that no two are in contact and separated sufficiently to permit thoroly surrounding them with concrete. Field stones used in the manner described should be clean and wet before laid in the trench. In no case should the volume of such stones exceed one-third the total volume of the foundation.

In building foundation walls that are to enclose a basement or cellar, it is necessary that the work be carried on if possible without interruption, and the concrete be placed in uniform layers so there will not be a slope to the work in the forms. However, it is sometimes necessary to stop work before a certain portion of a wall section can be finished. When resuming work it is necessary to take certain precautions to prevent the stopping and starting points of work on different days from being marked by a seam or joint, thru which leakage could take place. The old concrete in the form should be thoroly scrubbed with brush or broom and water and before any more concrete is placed the surface of the old work should be painted with a cement grout paint consisting of cement and water mixed about like cream. If the new concrete is immediately placed on this painted surface before the grout has had a chance to harden, a good bond will be secured between the two days' work.

When the immense loss which is caused annually by rats is considered, the need of stopping their depredations is clearly seen. It has been estimated that each rat in the country destroys one dollar's worth of property annually. This loss can best be prevented by using concrete for foundations and floors of farm buildings. Rats have a safe retreat under buildings set upon low posts and wooden sleepers, and thus not only have opportunity to breed but also gain easy access to grain and other material stored therein. Granaries having concrete floors have no cracks thru which grain can run. They are also much easier cleaned, and offer a smoother surface upon which to use a shovel. When we consider the cost of wood and the permanency of concrete, the case is closed.—O. B. R., New York.

Extremes in the Water Supply

In the past few years on our home farm, we have suffered very materially from two unseen foes of the man who depends upon the soil for his livelihood. Heavy storms have swept over our place and these have been followed by dry weather that caused serious losses to all crops. During the time of floods, little streams have been swollen to miniature rivers, while our plow lands have lain under water for some time, so that we could not get upon them to do our farm work. But we, in common with many, have noticed how quickly the earth dries out after these severe storms, leaving the ground, if anything, harder and drier than ever.

How this pendulum swings we know by having our well at the house go dry just when we needed it most. This is a dug well, stoned up and it never used to go dry. It is only within a comparatively short space of time that this calamity has overtaken us. To meet the new condition of things, we have lately sunk a drilled well near the house and barns, fitted it up with a pump and pump jack, engine and heavy galvanized iron trough, so that we hope that in our day and generation we may be able to cope with this unseen, but very dangerous foe, dry weather.

Nor are we alone in this matter, and it looks to me as if we might all be compelled to face this difficulty, no matter where we live. From every prospect, the deepest drilled or dug well will at last fail to supply the needed water, unless we take early steps to guard against it. In fact, since we put down our drilled well, a number of neighbors nearby have been drawing water from our place, their own dug wells having gone dry. Some of these have done as we did and sunk drilled wells, while others have gone to the trouble and expense of digging their wells deeper, a hard and costly piece of work.

Now, there is a more serious side to this than may at first appear. What does it indicate that so many once perfectly reliable wells should go dry practically every year? This is a question that has caused a great deal of speculation on the part of our neighbors and the conclusion is that the level at which the great reservoirs of water stand in the earth is gradually going lower. The effect of this sinking of the water level is seen in the crops we grow, as well as in the difficulty we have in procuring the needed water for stock and household purposes. Ever crop must have a certain amount of water. In part, this is supplied by the rains that fall from time to time; but by far the greater part is brought up from the stored-up water contents of the soil by capillary action. The roots of many plants are able to go very deep in search of this water supply. A representative of this kind of plant is alfalfa, the roots of which dive far below the surface, unless stopped by layers of rocks. The roots of the corn plant also run deep; and when rain does not fall it naturally follows that trouble comes to this as well as other forms of plant life.

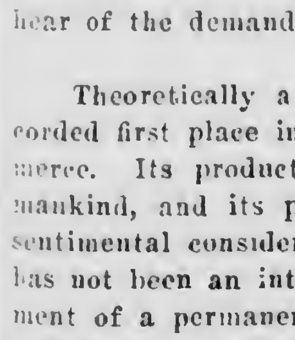
A moment ago we said that this is not a local condition. The farmer folks of other states are already beginning to see that they will have to meet the sinking water problem. In different parts of the country, more than ten thousand wells have been examined with a view to determining the amount of variation there has been in the past in the depth of standing water in them. Ten states were chosen for this investigation, as follows: Minnesota, Illinois, Indiana, Iowa, Kentucky, Michigan, Missouri, Ohio, Tennessee and Wisconsin. From the records obtained thus it was shown that in more than fifty percent of the wells examined—fifty-two percent, to be exact—the standing depth of water had fallen. In the eighty years since settlement began in the states mentioned, the average sinking of the water level has been fourteen feet, or almost two feet every ten years. There is no reason to suppose that the same lowering of the water table has not taken place in other parts of the country. Old inhabitants, in fact, of the various states have long noticed the tendency of once "durable" wells and springs to go dry in the summer time.

I must not step now to speak particularly about the effect of this condition of things if it goes on, upon the life, health and prosperity of the people of this country. One need not be very pessimistic to foresee that if unhindered, the time is coming, and coming fast, when the world will feel the result.

But is there any way to check this lowering of our water table? This is the thing that interests us universally. We feel the grip of our unseen foes of flood and drouth. How can we best combat them? I believe trees are the great natural conservators of moisture. It was God's plan in the beginning to cover the earth very largely with forests. He knew the need and took steps to supply it. Men have not recognized the beauty of this plan as they should; so they have been working for ages to destroy these most valuable aids to water conservation. The sooner we get back to God's way the better it will be for us. We may not be able to stop using lumber, but we can take pains to replace what we take away. For a long time our folks have been setting out some trees every year. Not only that, we have stopped wasting timber. No tree is cut that is not beginning to show signs of decay; and we work up the entire tree, from stump to branch. That is, we see the worth of checking waste. Of all the farmer's foes, waste is the most dangerous. If we would stop timber waste, and set about planting trees in dead earnest, we might hold our water table where it is, and perhaps after a long time bring it up higher.

States and the nation may do some part of this work, but the individual farmer and lover of his kind can do most of all. There are few farms but that would be the better for it if some trees were to be set out every year. Every tree so planted helps just so much to make this world a better place in which to live.—E. L. Vincent.

BY THE WAY



Twice within the past fifty years agriculture has passed thru periods of over-expansion; periods in which the supply was greater than the demand, and farmers sold their grain and other products for less than they cost and hard times existed in the midst of plenty thruout the land. These were conditions in the '70's and again in the '90's and they had much to do with accelerating the movement of the people from the farm to the city, and were the direct forerunners of the present condition in which we hear of the demand being greater than the supply.

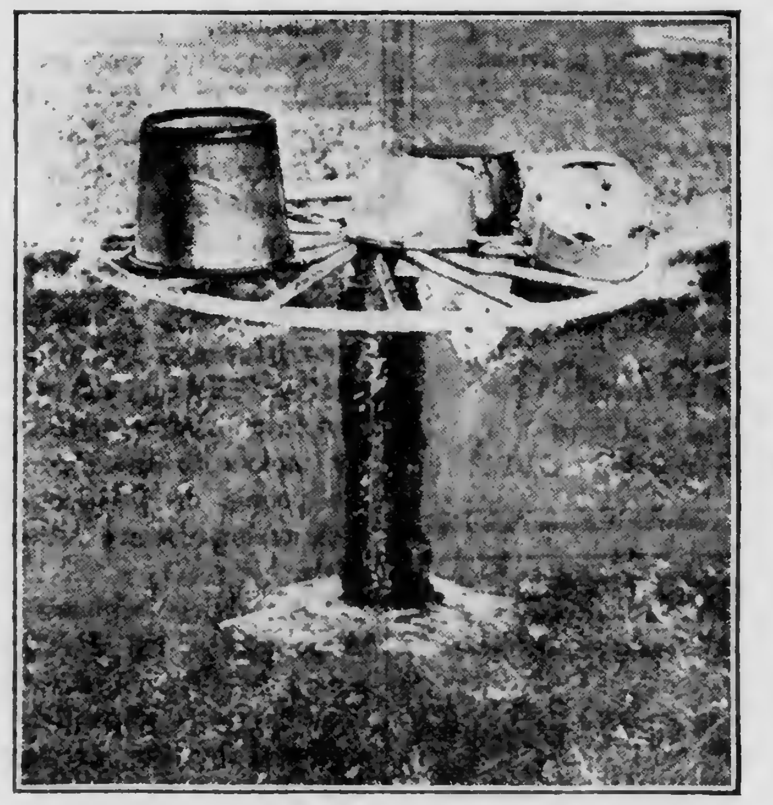
Theoretically and poetically, agriculture is accorded first place in the fields of industry and commerce. Its products are the primal necessities of mankind, and its people have been given at least sentimental consideration by all classes. But there has not been an intelligent concern for the development of a permanent, efficient and prosperous agriculture so that the consuming public might always be assured of enough to eat and wear. To have such assurance, there must be such financial returns to the farmer as will make the business attractive and assure a reasonable degree of stability. This cannot be had if excessive production continues for any great length of time, yet the general public seldom shows any economic interest in agriculture beyond this.

To build the kind of agriculture which any country, such as ours, needs requires the thoughtful, constructive co-operation of all the people, and this it has not had. The public's chief concern has been to obtain its food at the lowest possible price without regard to the effect of such prices upon the industry of farming, thus re-enacting the story of the man who killed the goose that laid the golden egg. Only within the past few years have the returns to farmers been such as to bring even a reasonable degree of prosperity to the business as a whole. Exceptions to this general statement are to be found only in sections where the fertility of the soil has been sold off and not replaced.

When food prices began to rise a few years ago in sympathy with the rise in all other lines, the consumer at once jumped to the conclusion that it was because of insufficient production, and that farmers needed prodding up and advising. The public tries to show the farmer that if he will raise twice as much wheat, produce twice as much milk and grow twice as many hogs he will, therefore, make twice as much money.

The farmer knows better.

He remembers he was told when he was selling 70-cent wheat, 30-cent corn, and 5-cent pork that the law of supply and demand regulated the prices of his products, and he knows that that law has not been repealed. He has learned that over-production in any line, or over-expansion in general, brings loss and often ruin.



HANDY CAN DRiER ON RACK.

Are we ripe for another period of over-expansion?

If even one-half the present concern for a large increase in the food supply is based upon necessity, there is no immediate danger of over-production, providing stringent embargoes are not placed. But we must not forget that the present increased needs are but temporary and should be met by speeding up, and by the application of the best economical methods of farming, not by an expansion that must be more or less permanent. It does not require a prophet to see that the demand will settle back to normal when the European nations resume the production of their own food after the war.

The acreage and general farming equipment in this country are ample for the needs in normal times and for this reason there is little need for opening up and irrigating hundreds of thousands of acres of new territory as recommended by the Secretary of Interior and as urged by many others just now. But farmers are not represented on the national defense board.

Over-expansion means not only the use of more acres than are required to supply the needs, but it means, also, heavy investment in farm land at abnormal prices. At the close of the Civil War farm products sold at prices never equaled until now, and many bought farms at inflated prices only to have them swept away in the panic of the '70's; or if they held them, to be slaves to debt the rest of their lives.

A word to the wise is sufficient.

—Father Penn.

HANDY CAN RACK

The accompanying illustration shows a carriage wheel enameled white and set upon a tree post. It provides a very handy rack on which to dry milk cans and kitchen utensils. The cans dry quickly and drain thru, leaving no mark on the rack. Towels hung on the spokes dry thoroly. The wheel is set about four feet above ground, keeping it out of reach except as used.—A. L. R.

Grain Moth and Bean Weevil

The annual loss in Pennsylvania to stored grains, beans and peas, thru insect injury, amounts to many thousands of dollars. This injury can be largely prevented by fumigating these products in accordance with well-defined practice.

Carbon bi-sulphide gas is the standard material for this purpose. It does not injure grain for food or seed. It may be obtained from druggists. To fumigate grain or other products, place in a tightly closed room, bin or other receptacle. For small amounts, a barrel or tight box is satisfactory. Fumigating in an open crib is a waste of time and material.

Fumigate only on a fairly warm day when the temperature is sixty degrees F., or higher. Insects are more active and hence more readily killed on warm days.

For 100 cubic feet of space use five to eight pounds, or pints, of carbon bi-sulphide, according to the tightness of bin or receptacle. If it is not air-tight or practically so, or if the temperature is below sixty degrees F., use a larger amount of carbon bi-sulphide. For a tight barrel an average dose of one-half teacupful is sufficient if the top of the barrel is tightly covered.

To fumigate large amounts of grain in the bin saturate burlap sacks or cotton waste and insert into the grain a foot or two below the surface. This allows the gas to diffuse more thoroly thru the grain. For deep bins, apply the material to the center of the bin by pouring it into a pipe inserted perpendicularly into the grain. The pipe should be removed after the material is poured in. Leave the bin or receptacle closed for twenty-four to thirty-six hours. —News Circular, Pa. State College.

Ten-pound Rate Best For Seeding Alfalfa

Ten pounds of alfalfa seed to the acre was found to be the most satisfactory rate of seeding in tests made by the Ohio Agricultural Experiment Station. Heavier seeding proved a loss of seed because unnecessary plants were thinned out within two years.

In one test of broadcast seeding started on the Experiment Station farm at Wooster in 1907 three cuttings of alfalfa annually for three years showed that 10 pounds of seed per acre gave the highest yields, with 5 pounds second, and 15, 20 and 25 pounds following. The same results were obtained in a similar test from the hay crops of 1913 and 1914.

Five pounds per acre led in tests made with an alfalfa and clover drill. With this rate, however, the percentage of weeds was comparatively high, and grass and weeds took possession of this plot first.

Counts on equal areas of the plots under experiment showed the stands from the widely varying rates of seeding to be close together after two years. The stand from 25 pounds of seed drilled was gradually thinned to that from 10 pounds. As a result of this thinning process 75 percent of the original plants from the 10-pound rate of seeding remained after two years, and only 23 percent of the original plants from the 25-pound rate. The 5-pound rate showed the thinnest stand of plants in all cases.

DISPOSING OF A BIG ONE

I recently took out on a farm near Salisbury, Md., a live chestnut tree. At the top of the ground, it was twenty-two feet six inches in circumference, and stood on a sand hill. I employed the trench method in getting under it. When complete, it was six feet under the tree. Twenty-five pounds of 40 percent dynamite was placed in the trench, and a cart load of clay was required to tamp it in.

One man and myself began working on it at one o'clock and the fuse was lighted at six. In a few seconds the tree leaped about ten feet in the air. When it fell it broke in many pieces so it could be easily hauled away. The value of the wood and posts obtained more than offset the cost of material and labor which was $6.32, so the stump was removed for nothing and a half-acre of valuable land was reclaimed as nothing would grow around it because of the shade and lack of water which the tree absorbed. —Frank G. Thomas, Maryland.

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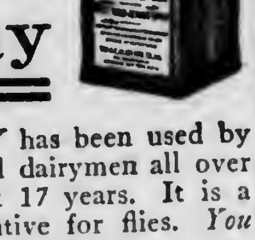

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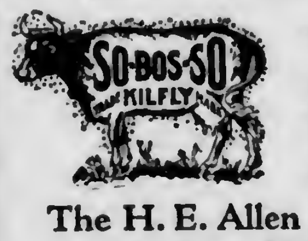

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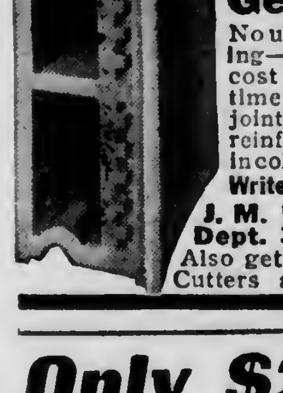

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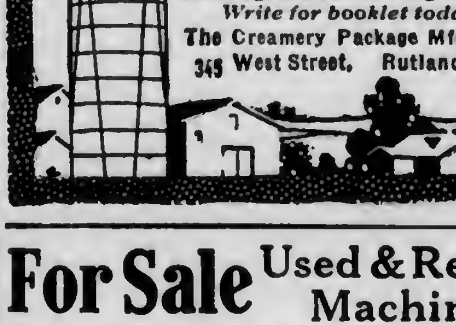

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A Plea for the Dairy

National Dairy Council Appeals to Hoover

The reports concerning movement of dairy cattle to the shambles were so alarming that the National Dairy Council called a meeting in Washington, on June 25, for the purpose of reaching practical conclusions on present dairy conditions, that Mr. Hoover might be informed upon the subject. The results of the meeting on the 25th were summed up in a document that was presented to Mr. Hoover on the 26th, and is given herewith:

"We wish to assure you at the outset that we have come before you prompted solely by a spirit of patriotism and an earnest desire to help you in every way possible to successfully carry on the great undertaking of conserving and distributing human food. We are most desirous of showing that we are worthy of the splendid heritage of human liberty and human rights left to us thru the glorious sacrifice of our forefathers.

"A meeting was called by the National Dairy Council yesterday in this city, composed of representatives from the dairy and its allied industries. In this meeting were men who are leaders in the production, manufacture and distribution of all the products of this great industry. They delegated to the Committee now before you the duty of offering this service and the presentation in a brief way of what this industry means to the life and energy of the people of this country and those with whom we are allied in this great crisis.

"The dairy industry today produces 18 percent of all the human food consumed in this country. In addition to this, there is dependent upon it and produced by the farmers owning the cows a very large additional percentage of human food, namely: Poultry, eggs, and pigs, the development and production of which is directly dependent on and connected with the production, distribution and consumption of dairy products and the by-products derived therefrom.

"All of the interests involved in the production, manufacture and distribution of dairy products are organized thru the National Dairy Council, the influence and use of which organization we tender to you at this time. Thru this organization we have been conducting some investigations that disclose conditions which vitally affect not only the conservation but future production of this great industry. We have found, thru this investigation, that during the past twelve months the dairy cows in this country have been slaughtered to an alarming extent. A careful survey made under the direction of Prof. Erf, the head and chief of the dairy husbandry of the State of Ohio in its University, shows that the dairy cows have been decreased during that period thru slaughter more than 19 percent. A survey made in the State of Minnesota, which we believe to be absolutely reliable, shows the decrease in that state to be more than 20 percent during the same period of time. A similar survey of Delaware, Montgomery, Chester, Bucks Counties, and counties of New Jersey south of Trenton in the area supplying milk to the City of Philadelphia, shows a decrease of 25 percent. A like survey in the state of New York, for the area supplying milk to New York City and other large cities in the state, shows a decrease of 24 percent. Surveys in other localities of the country show a similar decrease with these sections.

"With such a condition confronting the industry, we feel that you can render one of your greatest services by giving your earnest attention to an effort to conserve this most vital food producing machine, namely, the dairy cow.

"The vital importance, as well as the indispensability of the product of the dairy cow, is disclosed in many ways. The terrific infant mortality in all European countries now at war, excepting England, is most startling. Reports received from the Red Cross Society, the reliability of which has been unquestioned, shows that the death rate of children under two years of age in these countries ranges from 58 to 98 percent. England has escaped this terrific misfortune largely because of the supply of milk thru cow conservation assisted by condensed and milk powders which she has received from this country. It is an accepted fact that there is no substitute for butterfat contained in milk as a human food. This product of butterfat is so absolutely essential to the maintenance of the human race that no governmental or individual effort should be spared in maintaining it. In addition to the butterfat and the products manufactured therefrom, milk contains food nutrients of inestimable value, grouped under the general head of solids not fat.

"The economic value of milk and dairy products as human food compared to other important human foods, is too well known to require repetition. It must therefore be apparent that the question of conservation and distribution of dairy products for human food is seriously menaced and directly involved by this destruction of the dairy cow which is undermining the entire industry.

"We believe that this great industry which supplies the greatest single human food justifies you in placing under your command a representative to furnish you with all available information and assist you in conserving the dairy cow and her products and economically distributing same and we herewith tender you the service of such a man, to be named by you, whose services will be given without charge. Such a person should be one not only identified with, but thoroly informed as to production, manufacture and distribution of dairy products and allied products heretofore mentioned and not identified with any other industry.

"We are urged to make this request for the reason that there are too many points of conflict between the meat animal industry and the dairy industry. We have men with us today competent to give counsel on the dairy cattle in- have the maker of butter, and the distribution of milk; the cost of feed; we have the maker of butter; and the distributor of butter and the storer of same; the ice cream manufacturer, and the man who can give data on the price of milk sold for all purposes. We have brought some figures with us on disposal of dairy cattle by slaughter in a few states. We have men who can advise on dairy cattle feed conditions as regards the present crop prospects; and we are all enlisted in the common cause of our country, ready to lay aside personal interests and ambitions for the good of the whole cause.

"And in making this offer of service and suggestion, we wish to assure you that we are prompted to do so solely from a profound patriotic spirit and an earnest desire to be of assistance to you in conserving and distributing this most vital and necessary human food."

When the statement was read to Mr. Hoover, he told the committee that he had witnessed some of the terrible afflictions that had followed the destruction of fat-bearing animals in the warring countries, and that every energy would be directed to prevent a repetition in this country. He asked that a Committee of five or seven be immediately formed, from which to select a man to sit on his Commission.

The committee representing the dairy industry was appointed. The dairy producers are represented on this committee by Mr. Munn, of Minnesota, Mr. Hull of Michigan and Mr. Cooper of New York.

COST OF MILK PRODUCTION

(Continued from page 1.)

herd, they may well raise all the good heifers, for cows are sure to become scarce and abnormally high. During the past winter and spring, many heifers have been sold thruout the dairy regions. This is not a good thing for these dairymen for they will either be driven out of business by scarcity of cows or will need to pay exhorbitant prices for cows. The high price of beef is tempting, but the law of supply and demand is sure to make cows abnormally high in the near future. Dairymen should consider carefully all these facts before selling heifers or cows.

Reducing the Cost of Production

Good cows, properly fed, are almost always profitable. Therefore it is necessary that the farmer, more than ever before, accurately determine his good and poor cows and dispose of the low producers. By weighing the milk occasionally; e.g., monthly or on three consecutive days per month, the amount of milk the cow produces is definitely known. If milk is sold on a butterfat test, then it should be tested for butterfat as well. This provides an absolute record for each cow and her place in the herd should depend upon the story told by the record.

The second great essential in profitable milk production is proper feed. The kind of feed should be governed by the price. During the past year roughage increased but little in price until the spring. Feed more roughage. Cottonseed meal and oil meal did not increase so much as other concentrates. Use them with ensilage and corn stover and clover or alfalfa hay. Be sure the ration is at all times properly balanced.

It has frequently been demonstrated that alfalfa will replace a large amount of high-priced concentrates. Still the dairymen have not been raising alfalfa as much as is possible. There are few farms that cannot raise this crop. Its value to the eastern dairy farm would be inestimable were it more commonly grown. Most of the alfalfa is grown in the states west of the Mississippi River. Most is needed east of the Mississippi River. Why not grow more where it is most needed?

The Ohio Experiment Station found that a daily ration of 11.6 lbs. of alfalfa, 27.8 lbs. of silage and 5.9 lbs. of corn meal produced 22 pounds of milk per cow daily while a daily ration of 5.6 lbs. of corn stover, 29.3 lbs. of silage, 3.1 lbs. of cottonseed meal, 3.1 lbs. of bran and 3.1 lbs. of corn meal produced only 20.5 pounds of milk per cow daily.

The New Jersey Experiment Station found a daily ration of 14 lbs. of alfalfa, 35 lbs. of silage and 25 lbs. of cottonseed meal produced 26.3 lbs. of milk daily per cow; while a daily ration of 40 lbs. of silage, 7 lbs. of corn stover, 4.5 lbs. of bran, 4.5 lbs. of dried brewers' grains and 2 lbs. of cottonseed meal produced 27.3 pounds of milk per cow daily.

Here we find a saving of 3.4 pounds of feed in one case and 8.5 pounds in another of costly protein per cow per day by the substitution of alfalfa for corn stover. When alfalfa is not to be obtained, good clover hay should be used, altho it is not quite so good as alfalfa. Few dairymen who are raising alfalfa for their dairy forage are selling cows because of high price of grain. They can produce milk cheaper than their neighbors who use timothy, red top, corn stover and some clover with purchased concentrates.

The Greater Loser

While this temporary hardship on the dairymen is unfortunate, yet it will eventually help the business by leaving the industry to those best fitted to produce market milk. Thus, these men will suffer a temporary loss which will be reimbursed when conditions right themselves. However, the consumer will suffer the greatest hardship since there is likely to be a shortage of milk next winter. This has been estimated to be as much as 40 percent below that of former years. Consumers consequently will need to pay abnormal prices for their quart of milk. This problem is of interest to both producer and consumer.

Cost of Milk Production for 160 Herds Having 3,860 Cows in Sussex County, New Jersey

			Cost per cow 1914	1917*
Concentrates			$ 38.66	$ 69.59
Roughage			31.53	37.84
Pasture (4 months) per cow			8.00	8.00
Man labor			27.03	40.54
Horse labor			3.35	5.03
Dairy equipment			.45	.50
Building cost, interest, depreciation and insurance at 10 percent			8.19	8.19
Taxes per cow			.75	.75
Interest per cow **			4.10	6.50
Depreciation at 8 percent			6.56	6.56
Bull service			2.40	2.76
Miscellaneous***			2.12	2.35
Total cost per cow			$133.14	$188.61
Value of manure 8 mos. not in pasture	$10.00	10.00		
Average value of calves sold	7.10	9.10	17.10	19.10
Average cost of keeping a cow per year			$116.04	$169.51
Cost of milk per quart for cows giving 3,019 qts. a yr.			.0384	.0561

* Figured for May 1917 and not whole year.
** Interest at 5 percent.
*** Miscellaneous includes calves died which was 8 percent.

Cost of Feeds and Labor and Value of Cows Upon Which Figures Were Based

	1914	1917
Hay, per ton	$ 15.00	$ 18.00
Stover	10.00	12.00
Ensilage	5.00	6.00
Concentrates	30.00	55.00
Labor, man per month	37.00	55.00
Value per cow	82.00	130.00
Interest at 5 percent		

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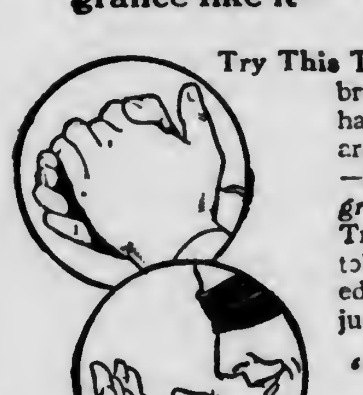

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Marketing the Fruit Crop

Some Methods for Increasing the Market

By R. G. KIRBY

With the exception of apples, there is little opportunity to store fruit to advantage and the bulk of the yields must be placed in the hands of the ultimate consumer as soon as possible. Cherries are a crop that require considerable labor in picking. Some markets will pay a premium for cherries that are clipped with shears and carefully graded. Practically all markets desire fruit that is cleaned and sorted. It does not pay to pick cherries directly into the quart boxes in which they are shipped. This results in poor specimens and dirt and leaves entering the package. Empty the cherries on a canvas top packing tablo and pack only first class fruit. Be sure that the boxes are filled with an allowance for the settling that will occur during transportation. A first-class crate of cherries assists in making friends for that kind of fruit and a poorly-packed crate will soon prejudice a buyer against cherries and the man who handles them.

Co-operation with an honest dealer is a paying proposition for the farmer with a small cherry orchard. The dealer will usually have a line of customers who depend upon him for the fruits in their season and he can frequently obtain better prices for cherries than some of the commission men in the large cities. Dealing direct with the consumer sometimes proves profitable and if first-class fruit is shipped it may lead to annual orders for one or more crates of the fruit at canning time. There is one difficulty in dealing directly with the consumer and that is the fact that the farmer is so busy in his orchards and packing house during harvest time that he may have very little time for the handling of individual orders and the correspondence often necessary in carrying on the transaction.

Early apples find a ready market in some sections where the local dealers can handle them to advantage. Frequently early apples bring better prices than the later varieties in our section due to the fact that there is little competition from fruit shipped in from other districts. Apples that have been properly sprayed and graded usually find a ready sale. With the rapid increase of insect pests and fungous diseases there is little opportunity to continue in the apple business without a thoro spraying campaign. As the unsprayed orchards are eliminated it should mean better prices for the grower who is willing to make the effort to market first-class fruit.

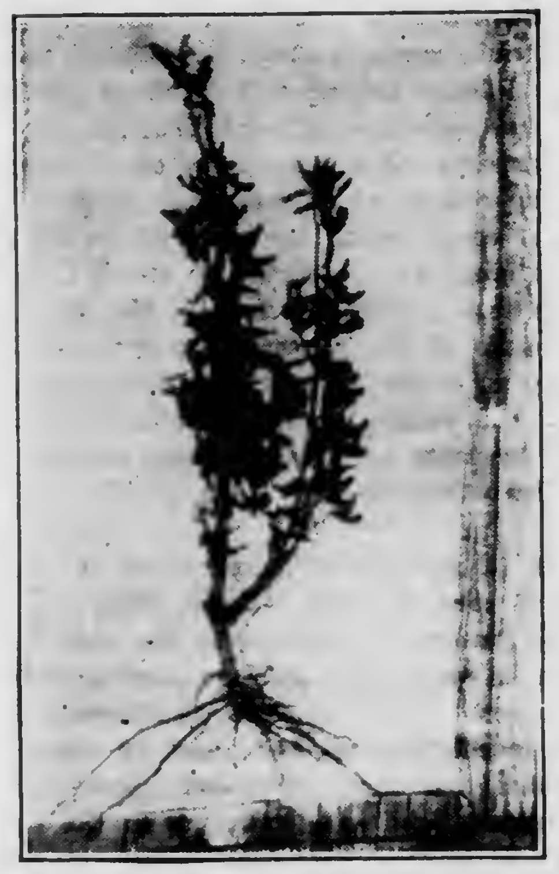
An honest pack is of great importance in marketing apples. Some growers have made too much effort to make the top of the barrel look good. They have been very careless of the quality of the fruit dumped into the middle of the barrel. In some sections I believe this has prejudiced buyers against purchasing apples by the barrel for storing in their cellars and the result has been fewer apples consumed and less profit for the growers. It pays to grade all apples before they are marketed and furnish the buyer with exactly the quality of fruit that he thinks he is buying.

Peaches are one of our best dessert fruits and fine for canning. The peach grower's problems have been serious, due to the perishable nature of his product. Co-operation with local dealers has proved satisfactory in many instances. The dealer buys direct from the farmer and advertises the fruit in his local paper. In many instances he is able to clean out a carlot of first-class fruit on the day that it arrives at his station and the risk of loss from rotting is then over. When peach growers have depended entirely on the commission dealers in some of our large market centers they have encountered glutted markets and this has resulted in poor returns and heavy losses. The cost of raising a bushel of peaches plus the cost of harvesting means that the farmer cannot afford to market recklessly. Then add the cost of the basket and the transportation charges and we find that the farmer has some money tied up which he can only get back by studying market methods. I remember one time when the Chicago peach market was glutted with good stock and there seemed no chance to make a cent on the crop. By visiting local dealers in sections where no peaches were produced, at least one grower sold his entire crop and made a small profit even when others lost heavily. It is surprising how few people can a winter's supply of peaches even when peaches are cheap. Possibly one of the reasons is the fact that peaches have gone from the grower to Chicago or New York and then back to a dealer in the farmer's neighboring town and by the time the middlemen have the peaches ready to pass on to the ultimate consumer the price is so high that he buys a bag of the fruit for immediate use instead of two or three bushels to preserve for winter.

The marketing of small fruit is also a problem in years when there is a large crop. Raspberries and blackberries cannot be stored for better prices. They must be placed in the home of the buyers at the earliest possible moment. Here is another chance for farmers to gain the good will of an honest local dealer. First-class packages of small fruit will be appreciated by the dealer's best customers and the farmer who can produce a first-class article is assured of repeat orders. In this way a large amount of fruit can frequently be disposed of in a short time and the farmer's time is then free to engage in the production end of the business. In the producing of small fruit crops there is much work and the farmer who strives to be a huckster loses many hours that might more profitably be spent on the home farm. It is wise to cut out as many middlemen as possible but there is no doubt but that the honest local dealer can be one of the farmer's best friends. This means that first-class packages must be marketed by the farmer or the dealer is unable to build up a trade in that particular farmer's product.

On roads travelled by automobiles, the farm sign board can frequently be used in disposing of large quantities of fruit in its season. City buyers are rapidly beginning to appeciate the advantage of purchasing their foodstuffs in quantities from the producer whenever it is possible. Frequently, motorists from nearby towns will depend on a certain farmer to furnish them with a bushel of peaches or two crates of cherries every year. There is no delivery expense in a sale of this kind and the farmer can make a reasonable price to the buyer and still obtain a better price than the commission men might allow. Of course a farmer can not bother with filling small orders during the busy season and the motorist who expects to stop almost any time and pick up a quart of strawberries or one small bag of apples should not be encouraged. No one who has not worked on a fruit farm can appreciate the strain and worry that often accompanies the busy days during harvest time. Hours are long and weather conditions are always uncertain. The farmer is compelled to do a wholesale business and the sign board which does not develop a trade which can afford to buy first-class fruit by the crate or bushel cannot be of much value.

The production end of the fruit business has been emphasized for many years but the marketing problems have not been studied seriously. Possibly some students of market problems will say, "Get a committee appointed and investigate it so that we can have a report printed." I can only say that this is a busy year and many farmers can do a great deal by trying to solve their own fruit marketing problems by first producing a fine quality product and then co-operating with their local dealers to get it into the hands of the ultimate consumer as quickly as possible. It might be wise to state to the dealer that he will make more friends and more money if he holds down the price to a level where he can sell 100 bushels instead of ten, and still make a fair profit on the transaction. The dealer who is successful in pleasing his trade can afford to be honest with the producer. There is an opportunity for many fruit farmers to improve their business by this method of cooperation.



ROOSEVELT VARIETY SOY BEAN—215 PODS.

THE ROOSEVELT SOY BEAN

The soy bean illustrated herewith is of the Roosevelt variety, 30 inches in highth, and bore 215 fully developed pods. This variety has proved of great value for the production of beans, having made from 20 to 25 bushels per acre. It is also valuable for planting for a hay crop, altho not so much so as "Sable", which has proved better for that purpose.—R. S. Good, York County, Pa.

Timely Fruit Notes

By Dr. J. P. STEWART

Is This a Good Time to Start an Apple Orchard?

"I am writing for a little information on the outlook for the fruit growing business. I have a chance to purchase a small place, 22 acres, ideally situated for orcharding, hillsides sloping to the north. Have had no actual experience in growing fruit, altho have had nursery and greenhouse experience all my life, and have wanted to plant an orchard for some time.

"As conditions are now, would it be advisable to make such an investment, which necessarily will take a number of years to develop? What are the future prospects, as far as can be seen, of the fruit business? I would expect to plant apple, with peach in between. I would appreciate all you may be able to say along this line, as conditions are so chaotic that one scarcely knows what is best or wisest.

"What varieties would you suggest for the latitude of Harrisburg? The soil is hilly, shaly, with good drainage.

"I have been thinking that, in the meantime, while the trees are maturing, I could plant the land in beans, and realize quite a revenue, at the present market prices. If you can give any information on this subject, I shall appreciate it very much."—A. K. R., Cumberland Co., Pa.

This is no easy problem—to offer safe advice as to whether a man should undertake the development of an apple orchard at the present time. Most of the conditions stated, however, appear to be favorable. Also in general, it seems that this is one of the things that relatively few other people are doing just now. The nursery sales of apple and other fruit trees this last spring were very light as a rule, and they have been falling off for the last four or five years. This would naturally indicate less competition when the present trees come into bearing.

Also the special demands now being made on all kinds of food, the general movement of the population away from lines of food production, the apparent suitability of the present site, and the nearness of a suitable market for the possible intercrops are all favorable factors.

On the other hand one should not expect much net profit from such a project until the trees come into good bearing. This will hardly be less than 4 years in the case of the peach and not less than 8 or 10 years for the apple. In the meantime the best that can be expected from the intercrops is to break approximately even on the total expense. Beans, tomatoes, potatoes and possibly cabbage are among the best of the intercrops available, and the greenhouse and nursery experience of the writer should enable him to grow all of them successfully. These crops, however, are likely to be reduced materially by the peach fillers, at least after the second year.

Varieties of apples that should do well in the location named are as follows, naming them in their approximate order of ripening; Yellow Transparent, Wealthy, Jonathan, Grimes (topworked on a hardier trunk), Stayman Winesap, Rome Beauty and Stark.

The peaches that I would suggest for this situation, also named in order of ripening, are as follows: Mayflower, St. John, Carman or Miss Lola, Champion, Belle of Georgia, Elberta, Frances, and Iron Mountain or Stevens.

The ultimate decision of this matter naturally rests with the man himself. Most people are a trifle reluctant about entering into any long-time propositions just now, but if the writer feels that he has the necessary resources and patience, that he is really an apple man at heart, and that all the essential features of the present site are favorable, he should not be afraid to take the plunge.

Trees cannot usurp the place of a broader agriculture, but can often be worked in conjunction with it. That farmer is but "casting an anchor to windward" who plants an orchard, a vineyard, a nut grove or a tract of timber. If he cannot live to enjoy it to the full, his children may.

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34x3 1-2	12.15	13.35	3.05
31x4	14.75	16.60	3.50
32x4	15.05	16.85	3.60
33x4	15.75	17.20	3.65
34x4	16.10	17.55	3.75
35x4	17.00	18.60	3.85
36x4	17.20	18.65	3.95
34x4 1-2	21.65	23.65	4.55
35x4 1-2	22.70	24.70	4.65
36x4 1-2	23.05	25.15	4.75
37x4 1-2	23.95	26.10	4.95
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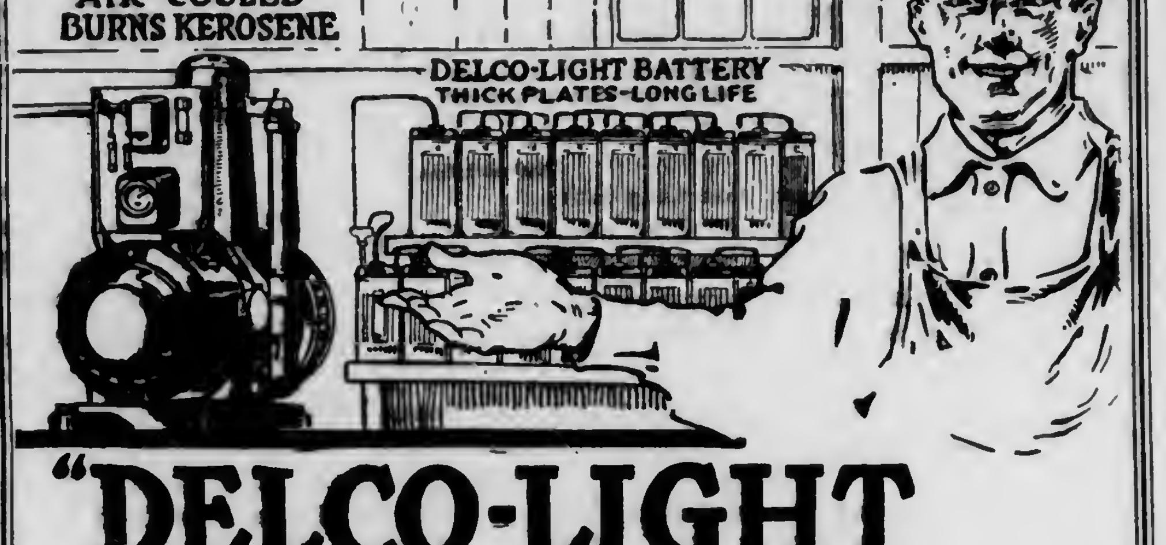

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PHILADELPHIA, PA., JULY 21, 1917.

AUTO TRACTORS

Announcement is made of a "happy idea" of an auto manufacturer to divert used cars to the farm tractor trade. The happy idea is to convert these used automobiles, which are ordinarily junked, into tractor outfits for farm use. It will require considerable demonstration to convince farmers that this is the type of tractors most profitable to buy. The farm tractor is here to stay and to develop into one of the most useful items in farm equipment. When fully developed to meet the varying needs that it will be called upon to meet, it will rival the automobile industry itself. The industry is already too big to be a second-hand or makeshift proposition.

* * *

SCHOOLBOY HELP

A large potato grower of New York state makes the following comment on his help experience this spring: "I had two city boys to help in potato planting. They were the best of a camp of sixteen boys because they were two of the three that stuck to the job when the rest went home. Yet they hit me pretty hard because they fed the potato planter and I find that they left a lot of skipped hills. Both were plainly better than the average city boy, but they could not appreciate the necessity of perfect planting like a farm boy." Here is the big trouble with inexperienced farm help. The wage is a small feature when your help is doing work in sowing or planting or is handling expensive, needed equipment or live stock. The careless or inexperienced man may easily do damage amounting to many times his wage. It is hard for the average city man to realize that good farm labor is skilled labor when skill often counts for more than it does in the trades and professions.

* * *

NO COMPLETE STATE ORGANIZATION

In working with a committee which desires to get in touch with all the organizations of the state, and thus with the members, the writer was struck with the following fact: Practically all the workers in every important industry, as well as many social bodies, may be reached thru a state organization, except the farmers. While this has been repeatedly stated, it is brought forcibly home when one wishes to address the farmers of the state individually. This can be and is done in the case of miners, engineers, firemen, bricklayers, printers, grocers, hotelmen, barkeepers—in fact every class except farmers. Is it any wonder that he is behind in influence, altho greater in number than any other? The grange is the largest organization of farmers in the east, yet no state has enrolled in the grange more than five percent of the farming population. There are other rural organizations such as farmers' clubs, farmers' alliances, associations, etc., but even these have no fraternal connection one with another. Farmers have as many things in common as has any other class of people—in fact are interested in more phases of social, business and political work—yet it is at present impossible to co-ordinate their influence and aid in anything because they have no common state organization. It is not because they do not need one, but because they will not try to co-operate as a whole.

* * *

COVER CROPS

There was never a year calling so urgently for the seeding of cover crops as the present. Tremendous demands are being made on the soil. Complete fertilizers are out of the market and such commercial plant food as is available is high priced and hard to get. The demands for increased production call for all the fertilizers the farmer can use with profit in the growing of his staple crops. The wise farmer will supplement his fertilizers and gain better physical as well as chemical condition of his soil by judicious use of green manures, cover crops and legumes. Plan now to sow a cover crop, a legume crop if possible, on all land that will otherwise lie uncovered thru the coming winter. The long growing seasons and mild winters of this section permit the growth of large quantities of vegetable matter to go back into the soil. The judicious use of lime with these cover crops builds a rich soil at low cost.

* * *

PRICES AND PATRIOTISM

President Wilson's public appeal delivered the other day to the business men of the country was timely and straightforward. As might be expected, it is secretly resented in many quarters and disclaimers of any intention to make extortionate prices are quite general. It is well, however, to thus call attention to this matter at the beginning of operations. There were many scandalous business transactions in the European countries after the war broke out in which many men made fortunes by taking advantage of the necessities of the governments. It is probably easier to forestall such actions than to remedy matters after the thing is done. It is all very well for men to assume an injured air of holy innocence, but the known tendency of men in general to make the most of business opportunities will cause the majority of men to applaud the President's caution. It is better to be safe than sorry.

* * *

PREPARING FOR THE END

It has been urged that the slogan "Business as usual," be adopted everywhere in our country so as to establish it in the minds of all, and thus prevent a state of panic and a consequent slump in business. So far, so good; but there are other and even more important things than merely keeping business going as usual. The successful prosecution of the war will require, in addition to "business as usual," the best thought and greatest energy that the people have. But even this is not all. After the war ends will come the reconstruction—the building of new institutions, even a new civilization. To do the work successfully will require a readjustment of values and the reformation of ideals. Probably the most vitally critical time of the Civil War was the period of reconstruction. This was because the people had not previously thought it out and prepared for it.

The mechanic who builds a machine and finds that it breaks down because of a weakness in construction, or of a defective part, seeks in the rebuilding to improve and strengthen the weak places, retaining the proven parts and principles. In order to do this he studies the accident, and the material and workmanship in the old.

So, while conducting "business as usual," and even while engaged in the waging of war, there is need for mankind to hunt for the weak places in the machinery of civilization and rebuild so that a like calamity may not happen again. We must not cast aside, in the stress and feelings of war-time—even temporarily—the things which are fundamental and which have stood the test of time—in so far as they have been tried. We need to study these principles and search out and apply new ones, and this is the time to do it. The world, as a whole, has never before experienced so general a need for united effort in the work of substituting right principles for wrong ones in the formation of governments and rules for human conduct.

The common people must concern themselves with these things and be ready to urge, and then help to apply, such rules of conduct and business as will square with their personal standards of right and wrong. They must insist, as they have insisted in relation to men and corporations, that the strong nation shall not prey upon the weak, and each be willing to add his mite in a common effort to restrain the Goliaths of the world. By this we mean the creation of some such world institution as the proposed League to Enforce Peace.

If the world is to become more democratic, the people must be become more intelligent and interested in the conduct of their governments and their institutions. The weakness in the theory of democracy is the selfishness of the individual. He is too prone to attend to what he thinks is his own business, and leaves too much to the so-called experts and professionals in politics, government, education and religion. The greatest result that can come from the war, the one which we have said must come, will be a greater freedom and opportunity for the individual, and a greater willingness on his part to do his share in promoting the common good. For such an ending we must prepare now.

* * *

FOOD CONTROL

Mr. Hoover's open letter to the President last week is of timely interest to all farmers. Mr. Hoover will probably be placed at the head of the department of food administration when Congress establishes such a department. It was to hasten the enactment of food control legislation that the letter was written, and in it are revealed some extremely interesting projects which Mr. Hoover has in mind.

Taking the recent government figures, estimating a total yield of 678,000,000 bushels of wheat, he points out that the normal home consumption including seed requirements is about 600,000,000 bushels. This would leave an export balance of 78,000,000 bushels under normal conditions. But Mr. Hoover says that conservation and economy measures are already showing results which may make it possible to curtail local consumption by from 80,000,000 to 100,000,000 bushels. All that could be saved in this way would go into the export trade. He did not discuss the details of the conservation propaganda, but the saving is evidently expected from suggestions made to the public, including substitution of rye and corn products for wheat bread, mixing of wheat flour with other kinds of flour, prevention of all waste, etc.

The effect of speculation offers even a more hopeful field of control. Mr. Hoover cites as evidence of undue burden of speculation the record of 1916, in which he quotes the average price received by the farmers as $1.51 per bushel, whereas the price on the speculative market went as high as $3.25 per bushel and flour advanced accordingly. The effect is summarized as a suffering to the consumer of from 50 to 100 percent with the producer gaining nothing. This condition is credited to rank speculation and the wide margin of profit demanded by every link between the producer and consumer.

It would be difficult to find a more typical example of the great weakness of our marketing system than the one here given. The results are the same with the great bulk of our staple crops, and have been for years. The market advances are made after the bulk of each crop is out of the producers' hands. The consumers suffer such increases as the speculative markets can develop, but the producers, except the comparative few who are so situated that they can hold on, gain little or nothing. Conservatives scoff at the idea of eliminating this speculative influence and at efforts to stabalize the market, but if government control is possible in any market, it ought to at least ameliorate a practice that places so heavy a burden on the many to the financial advantage of a few.

The third feature of the letter of special interest to farmers is the discussion of an equitable price for wheat. There is sound common sense in the statement that "in order to do justice to the producers who have shown great patriotism in a special effort to increase production in 1917 and to stimulate further the efforts of 1918, it is absolutely vital that we protect the farmers from a slump this year." Mr. Hoover said that most of the allied countries have fixed a price to their producers of $1.80 per bushel, and there is a disposition to feel that we, as allies, ought to supply wheat at a price that would not exceed that figure, delivered. That would mean a price of about $1.50 per bushel here. This Mr. Hoover believes is too low a price, as stimulation of production is of greater importance to all the allied countries than present price alone.

Whatever the merits of the proposed food bill to remedy the faults pointed out, Mr. Hoover has shown that he has a firm grasp of the underlying principles and difficulties, and a sound judgment on remedies needed.

HARRISBURG NOTES

The "Biennial Wait". — Departments of the state government have been going thru what is termed their "biennial wait". Every two years, because of the system of making appropriations, the various branches of the government have to wait for 30 days or so after the legislature adjourns before they can be sure of appropriations and start things moving. The governor has given more study to the bill carrying appropriations than to any other legislation enacted. It is reported that the governor is inclined to inaugurate a policy of "cleaning house" in a political way. Some of the data furnished for his consideration on the general appropriation bill is believed to have a two-fold purpose. It is an open secret that the Governor's backers expect him to lead a fight to dictate the nomination of his successor and it is general knowledge that the opposing faction means to trounce the governor's candidate if it can. It is intimated that the Governor will cut the bill with the future fight in mind. While the bill waits, the controversy over his right to reappoint rejected men is working toward a court test. It may lead to a political upheaval.

More Federal Aid.—Governor Brumbaugh's approval of the Graff bill puts the state in line for aid from the federal treasury for vocational and agricultural schools. This year it will receive about $40,000. The state has already made strides in the way of vocational education and the establishment of courses for the training of teachers who will specialize in agriculture will be facilitated. The danger is that unless some initiative is displayed by people in rural districts, the bulk of the money will go to cities.

Teachers Scarce.—All over the state there are school districts, especially in rural counties, where there will be trouble opening school this fall. These districts are in need of teachers, those employed last season having in a number of cases refused to enter into new contracts because of the better paid things in other lines.

Nursery Licenses. — The enforcement of the new nursery inspection law is under way and the new license system is being put into effect. All of the 350 commercial nurseries in the state are to be inspected and five men are now engaged in the eastern section where most of the establishments are located.

New Dog Law.—The new dog law, which is declared highly important to rural districts, especially those raising sheep, becomes effective this year and the new licenses will be issued in January. The rates will run from $2 to $4. Dogs must be penned up at night and damage done by them means claims. Dogs are declared personal property and there are many regulations. The State Game authorities have called attention to the provision in the game code that makes the owner of a dog responsible for destruction of game.

Inheritance Tax. — Governor Brumbaugh in announcing his approval of the direct inheritance tax law denounced the legislature for not passing more revenue laws. This declaration is taken to mean that he does not intend to inaugurate a policy of forcing local hospitals and the like to depend more on their home communities and to start a gradual reduction of state grants. The hospitals not under state control last session received $4,760,440 and homes $811,000. This session, hospitals were actually voted $824,850 more and the homes $169,920. The direct inheritance tax law levies $2 on every $100 left by a father to his children. Total appropriations are $85,478,469 and the governor will cut off $4,000,000 to keep within the revenue. There will be $10,000,000 received from direct inheritances.—Hamilton, Harrisburg, July 16.

NEW JERSEY NOTES

Market Prices.—In order to fix responsibility for high prices being charged for farm products, Governor Edge has begun a campaign of publicity. He has asked the state department of agriculture to furnish him on Saturday of each week an account of the prices prevailing thruout the preceding days of that week. On the Monday following he may give the public the information. The Executive declares that there can be no reason for a difference of as high as 300 percent between prices received by the farmer and the retail price on the stand as has existed during the immediate past. If as a result of the additional light to be thrown upon the subject, the price discrepancies cease to exist, then the public will be satisfied that prices are reasonable. If they do not cease, the result will at least be information for the Federal Government in the nation campaign for food conservation.

No Special Session.—A special session of the legislature to handle the food question is not necessary in New Jersey in the opinion of the Governor. The Executive states that as a result of co-operation by all the related state departments, the state has succeeded in bringing about a large increase in the acreage planted and is just as busy now in aiding the farmers to secure the necessary labor for the harvesting.

Retail Markets.—The State Department of Agriculture, in connection with its campaign for public markets, advocates as a beginning a wholesale and retail street market place, the wholesale business to close at seven o'clock in the morning and the retail to run from seven until ten o'clock following. It is declared that three market days a week would be sufficient.—L.

NEW YORK NOTES

State Fair Plans Completed.—At a meeting of the fair commission this week the final plans for the state fair were completed and ratified by the military officials at Washington. The new race track will be ready for use next week, allowing the removal of the grand stand to its final position immediately. Two new appointments were announced, Mrs. Durston as superintendent of home economics, a position designed to work out food conservation problems, and Mrs. Oberlander, hostess of the Womens' Building. The military authorities announce that the soldiers will occupy only the old horticultural buildings during the fair.

Dillon Offers Plan.—To prevent the waste of food in large quantities, such as has been prevalent in New York this spring and for years past, State Commissioner J. J. Dillon declares that the responsibility for providing adequate market facilities rests with the business men. He would have in each city an agricultural center or assembling plant with a canning plant as an auxiliary. Food from surrounding territories would be packed and graded in the assembling plant. After local food needs had been met at this plant, any surplus that could be sold at a fair price could be shipped out of town, and all other foods would be canned. Cold storage, dry storage, ware houses, drying plants, abbatoirs, fruit presses, pasteurizing and other equipment should be added as needed. In the beginning the equipment need be only a few sheds or a tent.

Milkmen to Purchase Wholesale. — The Cayuga County Milk Producers' Association expects to save over 10 percent in feed and other supplies by purchasing in carload lots for the use of members. A committee to investigate wholesale costs and freight traffic will report the result of their work early in August as a basis for future purchases.

June Rainfall Enormous.—The average rainfall for June for the Binghamton River district, which includes much of the middle sections of the state, is 7.82 inches, some sections having a record of 8.66 inches. The normal rainfall for June is 3.59 inches for this section. The rainfall for July continues equally heavy. A few farmers have mowed hay which has lain bleaching in the swaths for over a week. The prospects for securing the heavy crop of hay is now very discouraging—as much bright sunshine will be necessary to properly cure it.

Farm Bureau Changes.—M. C. Burritt, State director of farm bureaus, has been appointed professor of extension work in New York State in place of Prof. C. H. Tuck, who is now in Manchuria doing private work. Prof. H. E. Babcock, former assistant state leader of county agents, will have Prof. Burritt's former position. Both the farm bureaus and the office of publications have been placed under the extension service of the State College, and so will come under the supervision of the new dean, A. R. Mann.

To Broaden Scope of Land Banks.—At a meeting of the state food commission largely attended by federal, state, and commercial bankers it was urged that a further development of movements for the assistance of farmers during the marketing of crops was needed. It was explained that commercial banks could not offer long time loans to farmers as can the federal banks, altho they will extend credit to honest, capable farmers on security.—F.

PENNSYLVANIA FAIRS—1917

County	Town	Date
Blair	Altoona	Aug. 7-10
York	Stewartstown	Aug. 8-10
Armstrong	Apollo	Aug. 8-11
Allegheny	Imperial	Aug.14-16
Montgomery	Pottstown	Aug.14-18
Bedford	Osterburg	Aug.21-23
Berks	Kutztown	Aug.21-24
Butler	Butler	Aug.21-24
Warren	Warren	Aug.21-24
Butler	N. Washington	Aug.28-31
Lebanon	Lebanon	Aug.28-31
Washington	Arden	Aug.28-31
Chester	West Chester	Aug.29-Sept.1
Dauphin	Middletown	Sept. 3- 7
York	Hanover	Sept. 3- 7
Philadelphia	Byberry, Phila.	Sept. 3- 8
Bradford	Towanda	Sept. 4- 7
Bradford	Troy	Sept. 4- 7
Indiana	Indiana	Sept. 4- 7
Monroe	Stroudsburg	Sept. 4- 8
Susquehanna	Lawton	Sept. 5- 6
York	Fawn Grove	Sept. 5- 8
Bucks	Solebury	Sept. 7- 8
Centre	Centre Hall	Sept. 8-14
Lawrence	Pulaski	Sept.11-13
Susquehanna	Montrose	Sept.11-13
Cambria	Carrolltown	Sept.11-14
Crawford	Titusville	Sept.11-14
Cumberland	Carlisle	Sept.11-14
Jefferson	Punxsutawney	Sept.11-14
McKean	Smethport	Sept.11-14
Northampton	Nazareth	Sept.11-14
Tioga	Westfield	Sept.11-14
Berks	Reading	Sept.11-15
Juniata	Port Royal	Sept.12-15
Bradford	Athens	Sept.17-22
Cameron	Emporium	Sept.18-20
Mercer	Mercer	Sept.18-20
Armstrong	Dayton	Sept.18-21
Clearfield	Clearfield	Sept.18-21
Luzerne	Dallas	Sept.18-21
Somerset	Meyersdale	Sept.18-21
Tioga	Mansfield	Sept.18-21
Carbon	Lehighton	Sept.25-28
Clarion	Clarion	Sept.25-28
Clearfield	DuBois	Sept.25-28
Elk	St. Marys	Sept.25-28
Greene	Carmichaels	Sept.25-28
Lancaster	Lancaster	Sept.25-28
Mercer	Stoneboro	Sept.25-28
Somerset	Somerset	Sept.25-28
York	New Freedom	Sept.26-28
Beaver	Junction Park	Sept.26-29
Clarion	Curllsville	Sept.28
Sullivan	Forksville	Oct. 2- 4
Washington	Burgettstown	Oct. 2- 4
Bedford	Bedford	Oct. 2- 5
Columbia	Bloomsburg	Oct. 2- 5
Wayne	Honesdale	Oct. 2- 5
York	York	Oct. 2- 5
Dauphin	Gratz	Oct. 9-12
Lycoming	Hughesville	Oct. 9-12
Perry	Newport	Oct. 9-12
Erie	Corry	Oct.10-13
Union	Lewisburg	Oct.16-19
Venango	Franklin	Oct.24-25
Philadelphia	Philadelphia	Nov. 6-10
Delaware	Media	Nov.22-23
Adams	Biglervile	Nov.28-Dec.1
Lackawanna	Scranton	Dec. 6- 8
Adams	Bendersville	Dec.12-14

NEW YORK FAIRS—1917

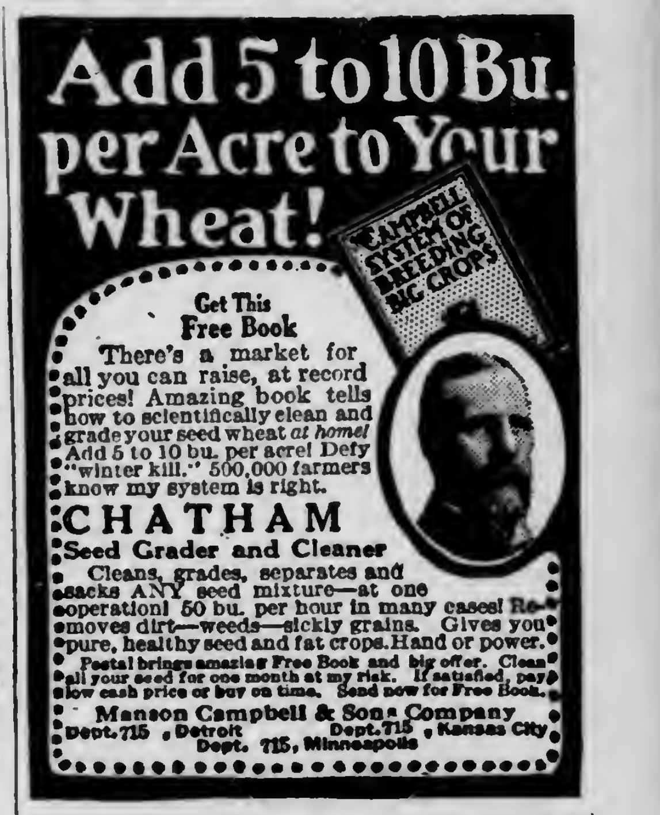
County	Town	Date
Tioga	Newark Valley	Aug. 7- 9
Madison	De Ruyter	Aug.14-17
Oswego	Fulton	Aug.14-17
Broome	Whitney Pt.	Aug.14-17
Cortland	Cortland	Aug.20-25
Orange	Middletown	Aug.21-23
Chenango	Afton	Aug.21-24
Oswego	Sandy Creek	Aug.21-24
St. Lawrence	Gouveneur	Aug.21-24
Warren	Warrensburg	Aug.21-24
Wyoming	Warsaw	Aug.21-24
Saratoga	Ballston Spa	Aug.27-30
St. Lawrence	Canton	Aug.28-30
Chenango	Norwich	Aug.28-31
Lewis	Lowville	Aug.28-31
Steuben	Hornell	Aug.28-31
Sullivan	Monticello	Aug.28-31
Tompkins	Trumansburg	Aug.28-31
Washington	Hudson Falls	Aug.28-31
Monroe	Brockport	Aug.28-Sept.1
West Chester	White Plains	Aug.29-Sept.1
Columbia	Chatham	Sept. 3- 6
Cattaraugus	Little Valley	Sept. 3- 7
Rockland	Orangeburg	Sept. 3- 7
St. Lawrence	Ogdensburg	Sept. 3- 7
Monroe	Rochester	Sept. 3- 8
Tompkins	Dryden	Sept. 4- 6
Delaware	Walton	Sept. 4- 7
St. Lawrence	Potsdam	Sept. 4- 7
Schuyler	Watkins	Sept. 4- 7
Steuben	Troupsburg	Sept. 4- 7
Jefferson	Watertown	Sept. 4- 7
Essex	Westport	Sept. 4- 7
Yates	Penn Yan	Sept. 4- 7
Oneida	Rome	Sept. 5- 7
Dutchess	Poughkeepsie	Sept. 5- 7
Wayne	Newark	Sept. 6- 8
Onondaga	Syracuse	Sept.10-15
Jefferson	Cape Vincent	Sept.11-13
Clinton	Plattsburg	Sept.11-14
Rensselaer	Nassau	Sept.11-14
Tioga	Owego	Sept.11-14
Washington	Cambridge	Sept.11-14
Ontario	Naples	Sept.12-14
Orleans	Albion	Sept.12-15
Otsego	Oneonta	Sept 17-21
Madison	Brookfield	Sept.18-20
Suffolk	Riverhead	Sept.18-21
Albany	Altamont	Sept.18-21
Oneida	Boonville	Sept.18-21
Allegany	Angelica	Sept.18-21
Franklin	Malone	Sept.18-21
Genesee	Batavia	Sept.18-21
Rockland	New City	Sept.19-22
Tompkins	Ithaca	Sept.19-22
Ontario	Canadaigua	Sept.20-22
Otsego	Richfield Spgs.	Sept.24-26
Schoharie	Cobleskill	Sept.24-28
New York	New York	Sept.25-27 Nov. 7- 9
Seneca	Waterloo	Sept.25-27
Erie	Hamburg	Sept.25-28
Allegany	Cuba	Sept.25-28
Steuben	Bath	Sept.25-28
Queens	Mineola	Sept.25-29
Broome	Binghamton	Sept.25-29
Livingston	Avon	Sept.26-29
Wayne	Palmyra	Sept.27-29
Chemung	Elmira	Oct. 1- 5
Otsego	Morris	Oct. 2- 4
Yates	Dundee	Oct. 2- 4
Montgomery	Fonda	Oct. 2- 6
Livingston	Hemlock	Oct. 3- 5
Wyoming	Perry	Oct. 9-11
Livingston	Caledonia	Oct. 9-12
Allegany	Wellsville	Undecided
Cattaraugus	Olean	"
Cayuga	Moravia	"
Chautauqua	Dunkirk-Fredonia	"
Chenango	Greene	"
Delaware	Margaretville	"
Greene	Cairo	"
Herkimer	Herkimer	"
Ontario	Reeds Corners	"
Otsego	Cooperstown	"
Rensselaer	Troy	"
Ulster	Ellenville	"
Wayne	Lyons	"
Niagara	Lockport	(Will hold no Fair this yr.)

NEW JERSEY FAIRS—1917

County	Town	Date
Gloucester	Pitman	Aug.14-17
Hunterdon	Flemington	Aug.14-17
Burlington	Rancocas	Aug.14-17
Bergen	Hohokus	Aug.28-Sept.1
Camden	Gibbsboro	Aug.31-Sept.3
Monmouth	Red Bank	Sept. 3- 6
Burlington	Mt. Holly	Sept.11-14
Somerset	Far Hills	Sept.21-22
Mercer	Trenton	Sept.24-28
Cape May	Cape May C. H.	Oct. 6- 7
Cumberland	Vineland	Undecided

MARYLAND FAIRS—1917

County	Town	Date
Worcester	Pocomoke	Aug. 7-10
Carroll	Taneytown	Aug.14-18
Wicomico	Salisbury	Aug.14-18
Carroll	Mt. Airy	Aug.16-18
Dorchester	Cambridge	Aug.21-24
Montgomery	Rockville	Aug.28-31
Baltimore	Timonium	Sept. 4- 8
Cumberland	Cumberland	Sept.25-28
Washington	Hagerstown	Oct. 9-13
Frederick	Frederick	Oct.16-19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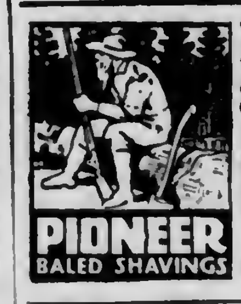
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TELL the advertiser you saw adv. in Pennsylvania Farmer.

Co-operative Egg Selling

System by which More Money is Realized

The federal government estimates that 17 percent of the eggs produced in the United States are wasted because of improper methods of production and handling of this product. It is probable that the fault lies almost entirely with the producers and small dealer and that this could be very easily remedied if the farmer would adopt proper methods of producing and handling this product.

The farmer sustains the greater part of this loss and the middleman and consumers suffer only a small part of it. Again, this 17 percent only includes that part of the product which is absolutely lost or is in an unfit condition for food. There is also a large percentage of eggs believed by the farmer to grade as the best market eggs, which, upon reaching the consumer, are graded into second, third, fourth or fifth grades because the producer has failed to realize the importance of properly producing and handling his eggs. The market eggs of high quality is easily the most profitable one, and every producer of eggs should strive for it. Two points should be taken into consideration in placing a high-class egg on the market:

1. Production of the egg.
2. The handling of this product.

Following are five rules which might well be followed by all farmers and poultrymen in handling their poultry and eggs:

1. Keep the nests clean; provide one nest for every four hens.
2. Gather the eggs twice daily.
3. Keep the eggs in a cool, dry room or cellar.
4. Market the eggs at least twice a week.
5. Sell, kill or confine all male birds as soon as the hatching season is over.

What the Farm Woman Can Do

Who is better fitted to take up this question of increased poultry and egg production than the farm woman? The raising of poultry, collecting and marketing of eggs, etc., has always been left, to a large extent, to the farm woman. But in too many cases, poultry raising has been considered a side issue and the care of the chickens and the gathering of the eggs has often been left to the children on the farm. As a result no one knows just how many working hens are around the farm. Often the eggs are gathered from stolen and dirty nests and taken to town and traded for groceries. If the eggs are sold on a ''loss off'' basis, by which only the good eggs are paid for, those eggs gathered from stolen nests will be candled out and the farmer will receive pay for only a small part of the eggs which he has brought to town.

Now is the time when the farm woman should make every effort to improve the quality of the flock, select the best layers (by the trap-nest or other methods), and discard the weak, sickly stock.

The question of the marketing of the eggs should be carefully studied by the farm woman and she should see that only fresh, clean eggs are put upon the market. The work of the United Irishwomen in Ireland is very informative in this respect. There the women have combined for increase of their supply of eggs, and for profitable and proper market methods. Egg depots have been established in many rural districts. The women have formed themselves into societies. Each society elects a governing committee, secretary, etc. A certain amount of share capital is subscribed, according to the number of members. A collecting store is found, and on one day of each week the members send in their week's supply of eggs. The plant includes packing boxes of an approved make, with account books, stationery, etc. One experienced member undertakes the management at the beginning, and gradually each member can take it in turn, to test, pack and arrange each week's supplies. In this way the responsibility is equally divided. A knowledge of the work and time involved becomes personal to all, as does the desire to send out no single egg that is not up to the standard. And the making and dividing of profits is as much the business of one as of another.

Co-operative Egg Marketing in Canada

In Canada approximately 105 egg circles are in active operation at the present time. Of these, 40 are located in Ontario. The most successful co-operative egg and poultry association in Canada is located in Prince Edward Island, where some 52 or 53 associations are amalgamated into one central association with central warehousing, grading and selling facilities. This association last year had a turnover of approximately one-quarter of a million dollars in eggs alone and, in addition, handled some 20 to 25 tons of poultry. The association in Prince Edward Island has reached a very high standard of co-operative efficiency, it being recognized as one of the most perfect in existence insofar as its general principles of equity, financing and co-operative spirit are concerned. It is financed by means of collateral notes subscribed by the 3,000 members. These are returned each year and a reserve fund is being accumulated. Eggs and poultry are paid for on a percentage basis and all profits divided at the end of the year according to the quantity and quality supplied by each member.

Methods of Organization

It is customary in districts where considerable interest has been shown in the co-operative marketing of eggs, for a public meeting to be held to thoroly discuss the matter. The general plan followed in such a meeting is to have some one who is familiar with the subject give a brief address. The meeting is then thrown open for a general discussion, and after all have spoken who desire to express their views, a vote is taken as to whether those present wish to form such an organization. If the vote is in the affirmative, the first step is the adoption of a constitution and by-laws and the election of a board of directors. In choosing the board of directors it is customary to select individuals from representative sections of the district surrounding the central shipping point. The amount of membership fee should be decided upon at the organization meeting. In most cases the president, vice-president and secretary are chosen from the members of the board of directors at the first board meeting following the organization meeting. In some instances where the egg circle is organized in conjunction with a co-operative creamery, cheese factory, farmers' club, or other association, the board of directors already appointed acts for the egg circle as well. Sometimes, when linked up with other co-operative associations of this kind, financing the undertaking at the outset is greatly aided, for the association already having funds of its own is able to purchase a more complete equipment of egg cases, candling apparatus and other things that may be deemed necessary. When cream-gathering wagons collecting milk for cheese factories are already covering certain routes, they may be utilized for the collection of eggs as well.

A most important work of the directors is to select a competent manager. The success of the circle depends largely upon the energy, ability and honesty of the manager employed. He comes most frequently into direct contact with the members, and upon his business ability and shrewdness in selling the eggs depend the financial returns to the members.

In most circles the eggs from each farm are collected at stated intervals by the manager. In others the members deliver the eggs at some central point such as a creamery, cheese factory, store or house, where they are prepared for shipment.

How to finance the purchase of cartons and other items is sometimes a difficult problem for an association to solve. The membership fee should be large enough to cover the cost of stamps and pads for stamping the eggs and other incidental items at the outset and leave a small surplus in the treasury. Often small amounts remain over from the receipts of shipments after the manager has deducted his charges and made the most equitable division of the returns possible among the members. This is placed to the credit of the association.

Regulations

Members of the association are subject to rules decided upon by the board of directors such as the following:

1. Members must deliver all eggs except those which are to be used for their own housekeeping or breeding purposes or those to be sold for breeding purposes.
2. No member shall be permitted to dispose of eggs thru the association from hens other than his own.
3. Poultry houses must be kept clean and sanitary.
4. No nest eggs that will, in any way, taint the new laid eggs may be used.
5. Eggs must be gathered twice a day and kept in a cool room free from draught, dampness and foul odors, and if possible, in a temperature not exceeding 60 degrees.

While the co-operative egg circle has not been organized as extensively in the United States as in some foreign countries, there are circles operating successfully in New York, Texas, Mississippi, Oregon, Colorado, Iowa and several other states and it will not be long, no doubt, before they will be organized extensively in Wisconsin, as the best means of marketing our eggs.

Write to the National Agricultural Organization Society, Madison, Wisconsin, for further information regarding the formation of egg circles or for copies of rules and by-laws of such organizations.

HOW TO GRADE EGGS

Do not wash dirty eggs and send them to market for different forms of mold may result from packing the eggs damp. Washing also gives them the appearance of stale eggs by making them look glossy.

Do not pack eggs that are cracked, for they will probably become broken before they reach the market and soil a number of other eggs. Pack the eggs according to size, placing the large eggs in one case and the small ones in another.

Candle all eggs before sending them to market so that stale eggs, eggs with blood rings, checks, white rots, black rots, moldy eggs, eggs in which incubation has begun, etc., will not be put upon the market.

Live Stock

NO PRIZES FOR GRADE STALLIONS

It is reported that approximately 22,000 grade stallions have been granted licenses for public service in 20 states that have adopted stallion license laws. Those states having 1,000 or more licensed grade stallions are, in the order of their rank, Illinois, Nebraska, Iowa, Kansas, Indiana, Minnesota, Wisconsin, North Dakota, and Pennsylvania, all representing the greatest horse breeding states of the Union.

Taking the number 22,000 as approximately correct, and assuming that each grade stallion serves an average of 40 mares a season and gets, say 35 percent of them with foal, we are then producing in these 20 states more than 300,000 ''degraded'' animals yearly. And, when we take in other horse-producing states that have no stallion law, such as Missouri, Ohio, Kentucky, Tennessee, and Virginia, the total number of inferior and non-descript colts being annually produced is nothing less than appalling. It is hard to conceive of any intelligent farmer or breeder patronizing grade and scrub stallions when it is a demonstrated fact that there can be no constant improvement except by the use of purebred, sound sires.

Purebred Berkshire Sow. 600 pounds at 2 1-2 years. Owned by C. C. Keiver, Lancaster Co., Pa.

But one of the most surprising and injurious things is that at many county fairs and at even some state fairs, classifications are provided and premiums offered for grade stallions. What excuse can there be for such encouragement in the production and use of inferior sires? Such a practice destroys the work of better teachers and stallion boards. It hampers them in their efforts to awaken farmers and breeders to the fact that by patronizing such stallions they are not only lowering the quality and efficiency of the country's horse power, but are actually reducing farm values.

The exportation of more than a million horses of the common sort to Europe the past two years and a half is startling evidence that this country has an abundance of inferior horses. There was practically no market here for these exported horses, and while the market has shown little or no effect from their exit, we are that much better off at least. The encouragement in the production and use of grade stallions thru county and state fair premiums should come to an end and a classification adopted that will recognize nothing in the way of breeding males except the pure bred.

The farmers of the country can ''do their bit'' in putting the grade stallion out of business by refusing to patronize him, and also by castrating every yearling male that is not of pure breeding. Farmers' organizations should adopt resolutions condemning the offering of premiums to grade stallions at any fair and in this way assist in improving our horses instead of degrading them. They should also declare themselves committed to the policy of ''none but purebred sires.'' Until these things actually happen, we are going to continue producing a lot of inferior stuff. The time for action is right now. It takes four or five years to make a horse, and now is the time to prepare for the future.—C. M. M., Franklin Co., O.

RYE FOR FALL HOG PASTURES

Rye is a valuable forage crop for hogs. It adapts itself readily to different conditions of soil and climate and furnishes a maximum of good pasturage at times when other succulent feeds are not making new growth. From October until late the following spring, rye will furnish a welcome addition to the ration of breeding hogs and growing pigs. Then, by shifting the hogs to another pasture for a few weeks, the rye will come on and produce a crop of grain that may be hogged down profitably and the ground plowed and fitted in time to sow some other crop for fall pasturage. Other crops furnish more valuable feeding nutrients at certain times of the year, but no crop fits into the pasture schedule better than rye.

For the brood sows and their fall litters of pigs, rye will give ideal grazing until the snow covers the ground. If the winter be more or less open, the rye will afford green forage and abundant exercise for the breeding hogs and growing pigs and as soon as spring comes with its warmth and sunshine the field will become green with luxuriant forage for all classes and is the first pasturage to be had in a northern climate. Even bluegrass ranks second to rye as a winter and early spring pasture for hogs.

If one has plenty of land under cultivation and his fields are well fenced it may pay to let the rye crop mature a crop of grain to be hogged down. If this is to be done, the hogs should be removed about the time the rye begins to joint and grow up. Hogging down rye is an efficient way of building up the fertility of the soil. All of the straw and about 80 percent of the fertilizing value of the grain is immediately returned to the soil, and is better and more evenly distributed than would be possible if the crop was harvested and fed in the usual way. It is possible, even on very thin soils, to produce luxuriant growth of rye straw with fair yields of grain.

The composition of rye grain is about the same as corn, being only a little higher in protein than corn. To balance up the rye and secure maximum feeding value from both grain and forage crops it will pay to have a field of alfalfa or clover adjoining the field of rye that is being hogged down. This will give the hogs a balanced ration and insure rapid gains at low cost. No corn should be fed to hogs that are hogging down rye.

Experienced feeders do not turn the hogs into a field of rye until about ten days after it has ripened. When first ripe the grain is very hard and the beards annoy the hogs so that they eat only small quantities of the grain and tramp down the crop. In about ten days the beards lose their points and the grain softens, and the hogs take hold of the new feed with a relish. Under no circumstances should one turn the hogs into a field of rye before it is ripe.

The money value of the rye crop that has been heavily pastured with hogs is not great, whether hogged down or harvested for grain. But on land that needs building up in fertility or where land is cheap, the hogs will return a fair profit. At present prices for hogs, feeds and labor it will pay to utilize the rye crop both for pasture and for hogging down purposes.—W. Milton Kelly, Erie Co., N. Y.

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The Stolen Picnic

By George Ethelbert Walsh

"Nan, don't forget the camera. We do want to take a picture of the girls."

"I'll attend to that, Shirley, but don't you forget the cake. I dote on the chocolate cake mother makes."

Shirley smiled, and looked at bustling mother to see how she took the compliment. Then she was off immediately giving rapid fire orders.

"Nell, you're responsible for the knives and forks—one apiece, remember. Kate, have you the paper napkins in the box? Oh, mother, did you wrap the sandwiches in that oiled paper? You know it keeps them so moist."

"Yes, dear, and everything is ready. Here comes father now with the team."

The team drove up with a rattle of big wheels and a jolting of loose sides. It was a merry party of girls who tumbled into it. Shirley directed affairs to the last, tucking, metaphorically speaking, everybody in and then giving the order to start. A dozen voices were talking all at once so that the result was a little confusing but pleasant to the ears.

"Good-bye, Mrs. Chandler!"

"Good-bye, Mother! We'll be back early!"

Mrs. Chandler smiled faintly and waved a parting salute. Then she dropped down in an easy chair and sighed. She had been up since daylight, preparing for the picnic, and now that the girls were off she experienced a little reaction. It may be that the sight of the merry faces recalled past girlhood days when she, too, went to picnics. But that was so long ago that she could scarcely count the years. Something in Shirley's and Nan's bright, eager faces made her smile a little sadly.

She was resting on the front porch when Mrs. Lease appeared at the door. Her mind was in the past, with possibly a suspicious moisture gathering in her eyes. Mrs. Lease was in for a few hours to help with the work of getting the picnic party off early. She was an invaluable aid on such occasions. She could wash, bake, clean and do general housework in a way that made her in many respects the most important person in Miltonville. And above all, she had a cheerful philosophy of life and was never known to frown, look cross or speak an impatient word in public. She stood now in the doorway, her kindly eyes watching the lonely figure rocking silently under the shadow of the honeysuckle.

"I should think, Mrs. Chandler," she said, abruptly, "that you'd like to go to the picnic with the girls."

The lonely woman started as if the words had been an echo of her thoughts. She flushed guiltily, for in thinking of her own picnic days there had grown into her mind a strong wish that she could renew her youth, if only for a day, in a frolic under the trees. Of course the girls didn't want her, and had never asked her. It was the way of daughters. She couldn't very well remember whether she had ever thought of the matter in just such a light.

"Oh, girls don't want old people with them," she replied, forcing a smile and a weak laugh.

"I dunno," replied Mrs. Lease, "I think sometimes they do. Anyway, I'm training the twins up so they'll never want to go to a picnic without me. You see, I take 'em off on picnics every once in a while, and I'm going to keep it up as long as I'm able to walk. Then they'll feel lost to go without their mother."

Mrs. Chandler smiled again, and asked, with a little surprise in her voice and question:

"You go off on picnics, Mrs. Lease? Why—I didn't know that."

"And why not?" almost defiantly. "No woman should get so old that she couldn't enjoy a day off in the woods. Me and the twins have lovely times together. We can't afford to hire a team, but it isn't such a long walk up to Bald Knob, and there's the loveliest grove there you ever set your eyes on. We just picnic out all day, and walk home in the cool of the evening. It just refreshes me and puts me in good humor for a week or two of hard work."

"Yes, I should think it would," admitted Mrs. Chandler. "And the twins enjoy it, too, I suppose."

"Certainly. They're always teasing me to go off on a picnic. Sometimes we go alone, and sometimes they invite their friends. But it makes no difference who goes; I'm always included."

There was such wholesome conviction in the tones that the lonely woman could not doubt her words. She tried to remember the age of the twins. They were still younger than Nan or Shirley, but only a few years. But she had to admit that she hadn't been on a picnic with her daughters in ten years. What was the difference between Mrs. Lease and herself? They were both mothers and loved their children, and there was no question about Shirley's and Nan's affection for her. Was it then the difference in training?

"I was going off today," Mrs. Lease added, breaking into her train of thought again. "The twins are expecting me any minute. I've cleaned up here."

A pang of jealousy crept into Mrs. Chandler's heart. She almost envied this woman who was going off on a picnic with her two daughters, while she was doomed to stay home until night when Nan and Shirley would return happy and tired with their day's pleasure.

Mrs. Lease hesitated, fumbling with her apron. Then, clearing her voice, she added: "I don't suppose now you'd like to come with us? There won't be anybody but me and the twins and two girl friends of theirs. Of course, if the walk is too long you could take the trolley half way."

Mrs. Chandler turned her head the other way. It had been so many years since she had been invited to a picnic that she experienced conflicting emotions. She understood Mrs. Lease's kind-hearted intentions, and was not at all offended by the invitation. Would it be improper for her to accept when Shirley and Nan were off on a similar pleasure jaunt without any thought of her going?

"I don't want to be forward, Mrs. Chandler," apologetically began Mrs. Lease after a minute of silence.

"Do you think the twins and their friends would care to have me along?" suddenly queried Mrs. Chandler.

"They'd be glad to," was the convincing reply. "They always like their mother's friends to go, too."

Mrs. Chandler rose suddenly. "I'll go. It won't take me a minute to get ready."

Mrs. Lease's face beamed with pleasure. "I'm sure it will do you good. There's nothing like a day in the woods with the young people to make you forget your worries. You'll ride half way up and meet us?"

"No, I'll walk the whole distance with you."

"Then don't stop to get anything to eat. The twins always carry enough extras, and one mouth won't make much difference."

Mrs. Chandler was soon in proper outing garb, and stole out of the back door with Mrs. Lease. She had some misgivings and once hesitated. But a spirit of recklessness, which seemed in harmony with the day, seized her and she flung her head back with a gay little laugh.

"I thought I'd forgotten how to enjoy a picnic," she said, "but I haven't. Let me carry that basket."

Mrs. Lease's friendly smile brightened her good-natured, wholesome face as she answered: "We shouldn't any of us get too old for that, Mrs. Chandler. Its the way to keep young with our children."

The twins were at the rollicking, carefree age, and the appearance of another in the part only added to the outing. They ran on ahead and picked flowers and decorated their heads with wreaths, and then insisted upon applying a similar halo to their mother's gray hairs. When they came to Mrs. Chandler, they hesitated, but that lady made it easier for them.

"Yes, I want a wreath, too," she said with a smile.

So when they reached the grove at Bald Knob, the six picnickers were gaily decorated with flowers and vines, and while the girls romped around and played games, the two mothers spread their simple feast on the rocks and made ready for luncheon. There was a rollicking, noisy little brook nearby, and they lacked for none of the essentials of a happy time. Overhead the birds warbled and the buzz of the insects made the other members of the party drowsy.

"I always take a nap after eating out here," Mrs. Lease said, noticing the heavy eyelids of her companion. "I'm going to take one now while the twins and their friends are playing."

"I believe I'll rest, too," said Mrs. Chandler. "This mossy couch is very inviting."

Her rest was more prolonged than she intended. The drowsy hum of the insects and the cool, refreshing breath of the breezes first brought quiet relaxation of mind and muscles; then heaviness of eyelids and mental apathy, and finally slumber which lasted for nearly two hours. It was a deep, restful sleep and when Mrs. Chandler finally opened her eyes she was smiling, for in her pleasant dreams she had lived in that dim past when she went picnicking with her young friends on every possible occasion.

"I didn't like to wake you up, Mrs. Chandler," Mrs. Lease apologized, "for you seemed to be sleeping so peacefully, and there's nothing like sleep in the open air to refresh one."

"No, I feel a hundred percent better. But it is getting late."

"Yes, and the girls have packed up everything. We'll start soon. But they want to have one more game."

The twins and their two girl companions were dancing around in a circle, singing some quaint old song, the words and music of which sounded familiar to Mrs. Chandler. Suddenly she began to hum the music and then the forgotten words came back to her, and she joined in the singing.

"I believe you do enjoy a picnic," remarked Mrs. Lease, as the song paused. Mrs. Chandler smiled back a response.

Then just as the twins started up with a new song, the rumbling of a wagon down the rocky road broke in upon their merriment. The approach of strangers apparently cast a damper upon their spirits, for they suddenly stopped and stared in the direction of the noise. As the wagon turned a corner, the occupants of it came into full view. There were gay ribbons, fluttering flower wreaths, and fresh, happy faces decorating the old farm wagon, and snatches of song and merry voices reached the picnic party.

In an instant the happiness vanished from Mrs. Chandler's face, and an expression of confusion took its place. Mrs. Lease saw the change and tried to interpose her substantial form to shield her from the eyes of the young people, for both of them had recognized Shirley and Nan sitting in front, with their young friends huddled together behind in various positions of comfort.

For just the fraction of a minute, a look of horror stole over the face of Mrs. Chandler. Then a half-defiant little glint entered her eyes, and the face flushed with pride and daring. She shoved Mrs. Lease's burly form to one side and faced the approaching wagon. The driver brought the team up with a short command. With his feet on the brake, Mr. Chandler stared in amusement and surprise. But Shirley and Nan took in the situation at a glance and they gazed at her in astonishment.

"Mother!" they exclaimed in unison. "What are you doing here?"

Mrs. Chandler slipped forward with dignity and grace, her garland of wild flowers falling from her gray hairs in a pretty loop. "I'm having a picnic with Mrs. Lease and the twins," she said easily with a little smile.

The two girls looked at the culprit with doubt and condemnation in their glances. The twins returned the looks with unconcern, and then began admiring the flower wreaths of their rival picnickers.

Mr. Chandler, who had remained silent, suddenly smiled, and his eyes danced with shrewd appreciation. Somehow, the defiant little woman standing before them made him think of a rebellious girl he had courted many years ago. She was not a whit less attractive to him now, and his keen sense of the humorous made him enjoy the situation.

"Won't you jump in and ride back with us?" he asked, breaking the awkward silence. Then noticing the doubt in his wife's glance, he added: "Yes, there's room for all—Mrs. Lease and the twins and their friends."

At this invitation, the twins, without waiting for further urging, climbed in back and made themselves at home. Mrs. Lease got in more awkwardly, and ready hands had to help her. But Mrs. Chandler placed one foot on the front wheel, and, with the assistance of a strong hand from her husband, she swung gracefully to a position on the front seat. There was an awkward silence at first, but young spirits soon forgot the interruption of their pleasures, and the singing broke out afresh. Mrs. Chandler did not join in these songs, but, with a strong, manly hand clasping hers at every favorable opportunity, she was as happy in a quiet way as any of them.

"Mother, why did you do it?" asked Shirley when they reached home. "If you wanted to go on a picnic why didn't you go with us?"

Mrs. Chandler hesitated a moment, and then replied with one of her sweet smiles: "Why, dear, none of you asked me."

"But—but, I didn't know you cared for picnics," stammered the girl in confusion.

"And I didn't know that you wanted me," was the provoking little retort.

"Mother, we will never forget you again."

And then two pairs of arms stole around her neck to convince her that she was wanted, even tho they had taken it for granted that she was too old for picnics and did not care to go.

Weighed But Wanting

Use the Scales in Buying and Selling

"You seem angry, Mr. Brown," said the customer to the grocer as he lingered in the store.

"I am, sir. The Inspector of Weights and Measures has just been in."

"Ha! Ha! He caught you giving fourteen or fifteen ounces to the pound, did he?"

"Worse than that," the grocer mourned. "He said I'd been giving seventeen."

The tragedy about this joke is that it never happens in real life. It sprang from the brain of some humorist onto a funny sheet and from there to a newspaper where I found it. The fact that this joke is a joke and not a commonplace everyday happening points to the need of not forgetting the old principle, "Let the buyer beware." It may be old, but it is blossoming again in these times of mounting prices.

We prefer to believe every merchant scrupulously honest. We like to trust humanity. We do not care to entertain suspicion. We do not wish our purchases to be weighed and found wanting. For that reason we either have no scales or we do not use them, and in the meantime our grocer may be short-weighing like a gypsy trader.

There is just one way to get honest weight, and that is to demand it. If the demand does not bring fairness, invoke the strong arm of the law. Nothing comes without effort somewhere along the line. I know two old people who refuse to be cheated by the short-weight method. They have scales. They weigh everything they have to sell. If their figures and the figures of the buyer do not correspond after making allowances for natural losses, the butter or chickens or cheese or other product is withdrawn and that buyer is put upon a doubtful list.

Weigh whatever is sold to you by the pound and ascertain whether you received the full worth of your expense. If the weight is short, do not hesitate to tell the merchant of the irregularity. If he refuses to "make it right", discontinue business relations and try elsewhere. If the merchant is courteous and apparently "square", do not then be too willing to believe him guiltless. A man who sold green peas to a canning factory discovered that after he had hauled them from his home to the buyer over a distance of three miles they showed a shrinkage of 15 percent. He thought he had made a mistake in weighing his first load but when the second and third loads also fell 15 percent short, he asked the factory superintendent about it.

"Oh, that's the regular shrinkage for three miles," the superintendent explained.

The farmer then figured that if he should haul the peas 21 miles his load would be a few pounds less than nothing. He told the factory man. They argued, but thereafter the difference between the farm weight and the factory weight disappeared.

Here is the moral of the incident. If the farmer had not used scales (he owned them) and had not "kicked" hard at the injustice being done him he would have received absolutely no return for 15 percent of his pea crop. If he had not weighed and protested, he would have been robbed of as many dollars as 15 percent of the yield was worth. After all, there is not much difference between a white-collared thief in an office and a collarless holdup man on the highway. The weighing habit does ample justice both to the farmer and to the dealer who is really and truly honest. Furthermore, the habit helps to eliminate the dealers who are careless or dishonest or both. Can there be a better reason for owning and using the scales vigorously?

When this same farmer went to the city meat-market, he bought some beef at 18 cents per pound and some at 24 cents. When he weighed the meat at home, he made the disquieting discovery that the meat had actually cost him, because of short weight, 31 cents a pound. A series of experiments with various butchers soon taught him where he could obtain honest weight. Now he gets a full 16 ounces and not a shy 11 ounces for every pound he purchases.

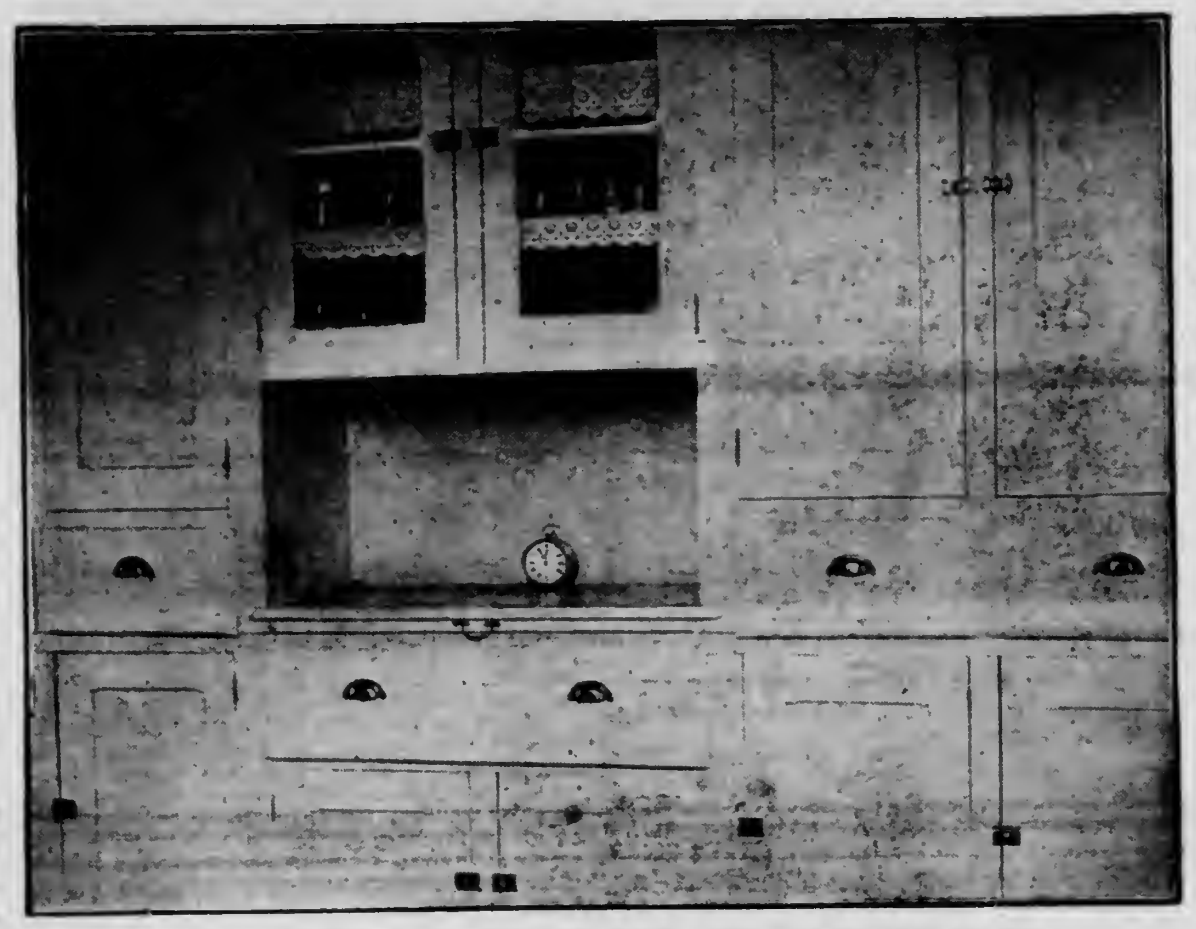
Among my own experiences with the short-weight evil are these: A "pound" of crackers that proved out 14 ounces on the scales; a "pound" of butter whose true weight was only 14½ ounces; a "pound" of dates that hugged the lower portion of the 15-ounce mark on the scale; a "half-pound" of butter which shrunk between the store and my home to 5½ ounces; a "fourth-pound" of dried beef which scarcely reached 3 ounces; and a "half-pint" of oysters which lost bulk so rapidly that there were only 5 ounces when I arrived at home. Nor do I consider myself particularly unfortunate in my dealings with merchants. All of the foregoing are happenings which occurred before I found merchants that were unfailingly "upon the square".

When I took those oysters back to the girl that sold them to me and told her that I had bought eight ounces and received a mere five, she made up the deficiency but she also explained that all the dealers in town were using the same kind of a measure. How true that was! Each dealer had a pint measure with a conical bottom, and each surely knew that filling the measure to the half-way point would not constitute a half pint.

I recently carried a five-ounce prescription to a druggist and asked that he double it. At home, when I poured the liquid into a glass graduate, I found that the druggist had retained three ounces as an extra profit, for I had only seven.

Instances of dishonest dealing are numerous. Every family should procure a suitable balance scale. All that is susceptible of weighing should be weighed. The dealer should know that his customers have the weighing habit, if indeed they do have it. If he is honest, he will be glad for it will show he is the right kind of a man to tie to; if he is not honest, you will discover the fact at once and will not permit him to continue to rob you. Study the economy of purchasing and insist at all times that you receive all that you are entitled to and no more.

Lastly, if you weigh your dealer and find him wanting, let his telephone number and his location be forgotten. Transfer your trade to another store. This method or system is a most powerful way to lessen the cost of living.—Carl S. Lowden.



ARRANGEMENT OF WINDOW. SINK AND CUPBOARD IN AN ERIE CO., N. Y., FARM KITCHEN.

Concentrate products, especially soup mixtures, so that each container will hold as much canned food and as little water as possible.

VALUE OF FOOD UNCHANGED IN DRYING

The nutritive value of food is practically unchanged by drying. Drying producés a difference in flavor and color in some foods. Green shell peas and beans remain practically unchanged in color, but apples when pared and exposed to the air are changed to a darker color, due to the action of the air upon certain of their elements.

Many factory-evaporated products are treated chemically to give them a lighter color, because the public demands a less highly-colored product. Such treatment, however, detracts from the natural color and flavor.

Not all fruits and vegetables lend themselves to preservation by drying. While berries may be dried, they are very seedy and not particularly desirable. Pears and quinces may be dried. Quinces, however, are quite expensive. They are better used for jellies and preserves, altho it might be well to have a small supply of dried quinces to combine with dried apples for the sake of their flavor.

By drying green shell peas and beans, green limas and string beans, the homemaker supplies a greater variety for the winter diet. The family may weary of mature peas and beans served frequently. If there is a supply of canned, green dried and mature dried peas and beans, and these properly placed in the menu, there is little danger of this type of food becoming monotonous.

For information on drying methods send for Extension Circular 61 of the Pennsylvania State College school of agriculture and experiment station, State College, Pa. Also send to the Department of Agriculture, Washington, D. C., for Farmers' Bulletin 839 giving complete canning directions, and also for "Drying Vegetables and Fruits."

A KITCHEN KINK

Cut the square corners of the pan turner to a round edge and note the difference in turning eggs, potatoes, etc., in a frying pan. The round edge fits close against the pan and does not leave a space like the square edge turner.—A. L. R.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

2069.—In cool lawn or dimity, serviceable gingham or seersucker, this model will be very desirable. It may have a collar or be finished with cool, square neck outline, and wrist-length sleeves with a band cuff or short sleeves. The bloomers will take the place of underskirts. The pattern is in 6 sizes:

2, 4, 6, 8, 10 and 12 years. Size requires 3 yards for the dress and 1½ yards for the bloomers, of 44-inch material. Price, 10 cents.

2086.—The waist is in Empire fashion and finished with tab extensions which hold a smart sash or girdle. The round neck edge is outlined by trimming bands. The sleeve may be in wrist or elbow length. Challie, lawn, organdie, gingham, voile, repp or silk may be used for this model. The pattern is in 4 sizes: 2, 4, 6 and 8 years. It requires 2⅜ yards of 44-inch material for a 4-year size. Price, 10 cents.

Markets

PHILADELPHIA PRODUCE.

Philadelphia, Pa., July 16, 1917.

White potatoes are in lighter supply but the market is weak and the stock dragging badly. The poor movement is not due to an inferior grade of potatoes for most of the receipts are of good quality and in splendid condition. Growers are holding back their shipments to avoid a glut and receipts are averaging 18 to 20 cars daily from the South. Eastern Shore potatoes are selling principally at $4.25 to $4.75 per barrel and very few sales are made above these figures. Second grades sold at $1.75 to $2.25 per barrel. Norfolk stock of Irish Cobblers sold at $4 to $4.25 per cloth-top barrel. The supply of Jersey potatoes is increasing and the price is easier. First grades are selling at 85 cents to $1 per ⅝ bushel basket and second grades at 40 to 50 cents. Jersey growers will find less competition from the South because of the car shortage which is a second factor in keeping their shipments back.

Vegetables.

A very heavy supply of green and wax beans brought the market to a low price at the close of last week. Sales are better this week with the market opening at 35 to 50 cents per basket. Outside markets are more limited in number than ever and local trade must be depended upon to consume practically the entire supply arriving here. New Jersey peas vary in quality and sales are from 50 cents to $1 per ⅝ bushel. A quantity of York State peas sold here at $1.25 to $1.50 per bushel basket.

Fresh bunched carrots and beets are in lively demand and fancy stock is moving out at steady prices. Beets are selling at $1.50 to $3 per hundred bunches and carrots at $1.50 to $2.50 per hundred bunches. A few bulk carrots from near-by sold at 90 cents to $1 per ⅝ bushel basket. Carrots from South Carolina were of poor quality and sold at $1 to $2 per barrel.

Spinach is in light supply and the market firm at $2 to $2.50 per barrel and fancy stock packed in half-barrel boxes is selling as high as $1.25 to $1.50 per box. The supply of lettuce is far in excess of the demand and the bulk of sales on near-by stock is at 25 to 60 cents per box of 18 to 27 heads. Local supply of cabbage is quite heavy and sales are at 75 cents to $1 per barrel and at 20 to 30 cents per ⅝ bushel basket. Outside shipments of cabbage find very little demand with near-by stock selling so low. Shipments from the Eastern shore sold at 50 to 75 cents per crate.

New Jersey corn started last week and sales are now ranging at $1 to $1.25 per basket. Some stock pulled much too young is selling below these quotations. North Carolina corn is in good condition and meeting with firm demand at $1.25 to $1.50 per crate. Fancy asparagus is scarce and prices are advancing as the season nears its close. Fancy near-by asparagus is selling at 18 to 25 cents a bunch, choice asparagus at 12 to 15 cents and culls at 5 to 9 cents a bunch.

Texas onions are of all grades at this late date in their season and sale prices vary from 75 cents for fair stock to $1.40 per crate for fancy. Louisiana onions are selling at $1.50 to $2.75 per 100-lb. sack and California onions at 75 cents to $1 per crate. Jersey onions are in light supply and arriving in good condition. The prices are held down by the supply of Texas and Western onions and fancy yellow Danvers are selling at 60 to 65 cents per ⅝ bushel basket. Green bunch onions or scallions are selling at $1 to $1.50 per hundred bunches. Peppers from Jersey are selling at 75 cents to $1 per basket and the demand is very good. There seems to be no end to the Florida season for shipping peppers and their stock is selling here at $1.25 to $1.75 per crate.

Tomatoes from other sections are showing up very poor in contrast with Jersey and Delaware stock, which now commands the attention of the best trade. Delaware tomatoes are selling at $3 to $4 per crate and Jerseys at $3 to $3.50 per ⅝ bushel basket for firsts and $1.50 to $2 for seconds. Near-by cauliflower is abundant and sales running from $1 to $2 per barrel. Near-by squash are in good demand at 60 to 75 cents per ⅝ bushel basket. Lima beans arriving from North Carolina are of good quality and selling at $1.50 to $2 per hamper.

Fruits.

There is a fair demand for fancy Georgia peaches and the market is kept fairly well cleaned up on fruit which is really ripe enough to sell. Elbertas are selling in six-carrier crates at $2 to $2.25 when fancy and poorer grades are selling down to $1.75 per crate. Belle of Georgia and Hiley Belles are selling at practically the same quotations as Elbertas. North Carolina Carmens are selling at $1.85 to $2 per crate.

The market is active on Carolina cantaloupes and solid ripe loupes are holding a steady market. Californias in standard crates of 45 sold at $2 to $2.25 and jumbo 45's at $2.25 to $2.75 a crate. Pony crates of 45 sold at $1.50 to $1.75 and flat crates of 12 to 15 loupes sold at 85 cents to $1 per crate. Georgia stock of pink meats in flat crates sold at 50 cents to $1 a crate. North Carolina shipments were draggy at 75 cents to $1.25 per crate. Watermelons are in heavier supply and sales range from $150 to $225 per car; and at jobbing the prices are $20 to $50 per hundred.

New York strawberries are finding a quick market on fancy shipments and sales are from 16 to 22 cents per quart. Blackberries are in lighter supply and good demand at 10 to 12 cents per quart. Raspberries are showing poor quality and dragging at 3 to 5 cents per quart. Huckleberries are steady at 14 to 18 cents per quart according to quality. Currants have been in light supply and absorbed by the trade at 10 to 13 cents per quart.

Poultry.

Live fowl are continuing in good demand and receipts of desirable size and quality are going out promptly at 20 to 23 cents per pound. Old roosters are in fair demand at 16 to 18 cents. Spring chickens weighing 1½ to 2 pounds are selling at 30 to 36 cents per pound and White Leghorns at 24 to 27 cents. Live ducks are selling at 17 to 20 cents and the market is kept well cleaned up at these prices.

Offerings of dressed fowl are running fairly liberal in supply and the market is slightly weaker. Fancy fresh-killed, dry-picked fowls, weighing 4½ to 5 pounds apiece sold at 24½ to 25 cents a pound; weighing 3½ to 4½ pounds at 23 to 24 cents; and 3-pound stock at 21 to 22 cents. Old roosters, dry-picked, sold at 18 cents per pound. Spring chickens from Jersey and other near-by sections sold at 36 to 40 cents a pound when they averaged 1½ to 2 pounds apiece. Fancy Virginia broilers are selling on this market with good demand at 32 to 35 cents a pound. Fancy spring ducks are in good demand at 21 to 22 cents per pound.

Eggs.

Fresh fancy receipts are running light and on the poorer qualities offered the market is dull. Near-by firsts sold at 36 cents per dozen, current receipts at 34 cents and seconds at 31½ cents per dozen.—Selmarad.

LANCASTER PRODUCE.

Lancaster, Pa., July 16, 1917.

The first offerings of Lancaster County corn were made in today's market with a rate of 40 cents per dozen prevailing. The quality was very poor and sales were few. Potatoes declined to twenty cents a half peck. Beans were plentiful. Peas were scarce and higher. Raspberries were very scarce and the market was active. Butter sold as low as 38 cents a pound, a new low record for the year. Eggs were plentiful at 35 cents a dozen.

Butter and Eggs.—Butter, creamery, 45@48c per lb.; do. country, 38@45c per lb.; eggs, fresh, 35c per dozen.

Live and Dressed Poultry. — Chickens, dressed (old), $1.50; do., (young), 50@85c; do., live, $1.50@2.00 per pair; do., old, live, 18c per lb.

Vegetables and Fruits.—Corn, 30@40c per dozen; new peas, 18@20c per hf. pk.; new beans, 12@20c per hf. pk.; lima beans, 12@15c per pint; squash, 4@5c each; celery, 5@10c per bunch; beets, 5c per bunch; lettuce, 5@12c per head; cauliflower, 15@20c per head; eggplant, 10@12c each; cabbage, 3@12c each; potatoes, 10@20c per hf. pk.; turnips, new, 5@10c per hf. pk.; spinach, 5c per hf. pk.; tomatoes, 10c per box; raspberries, 12@15c per box, 6@8c per quart; cherries, 6@8c per quart; apples, 20@35c per hf. pk.

County Butchering.—Pork roast, 30c per lb.; lamb, shoulder, 30@35c; do., leg, 20c; do., chops, 35c; beef, boiling, 20@25c; do., porterhouse, 30c; do., sirloin, 28@30c; round stake, 28@30c; do., rump, 18c; do., chuck roasts, 22c; veal, steak, 30c; do., boiling, 18@20c; sausage, smoked, 25c per lb.; dried beef, 48c per lb.; bacon, whole, 30c; do., sliced, 40c; ham, whole, 28c; do., sliced, 32@40c.

Grain Market.—Milling wheat, $2 per bu.; corn, $1.86; rye, $1.70; timothy hay, $18@19 per ton; mixed hay, $16@18; wheat straw, $11@12.

YORK PRODUCE MARKETS.

York, Pa., July 16, 1917.

This week saw practically the wind-up of the cherry and raspberry season. The former were scarce and sold high. Cabbage and potatoes are settling downward fast. Many are wondering where their money is to come from for the potato crop. Tomatoes are late this year, nothing but shipped ones being on display so far. Cucumbers are late also. A few early apples were offered and sold rapidly.

Eggs.—34@35c per doz.

Butter.—Country, 38@40c lb.; separator, 40@45c lb. Milk, 8c qt.

Poultry.—Hens, 18@20c lb.; springers, 28c lb.; dressed, 65c to $1.50 each.

Vegetables.—Potatoes, 10@25c ½ pk. Cabbage, 2@6c a hd. Lettuce, 3@8c a hd. Beets, 3@5c bch. Radishes, 5c bch. Onions, 5c bch. Lima beans, 30@35c qt. Soup beans, 30c qt. Celery, 4@7c a stalk. Tomatoes, 15@20c bx. Peas, 15@20c ½ pk. Beans, 10@15c ½pk. Asparagus, 7@10c bch. Eggplant, 10c each. Rhubarb, 5c bch. Turnips, 25@30c ½ pk. Musk-melons, 3@10c each. Watermelons, 40@50c each.

Fruits.—Apples, 20@35c ½pk.; new, 10@12c ¼ pk. Sour cherries, 10c bx. Raspberries, black-caps, 10@12c bx.; reds, 18@20c bx. Plums, 15c bx. Blackberries, 12c bx. Peaches, 15@25c ¼ pk.

Retail Grain Market.—Wheat, $2.30; corn, $1.95; oats, 90c; rye, $1.65; bran, $2 per cwt.; middlings, $2.70 cwt.

Wholesale Grain Market.—Wheat, $2.18; corn, $1.50; oats, 82c; rye, $1.55; bran, $37 per ton; middlings, $48 per ton.

PHILADELPHIA LIVESTOCK.

Philadelphia, Pa., July 16, 1917.

Receipts for week ending Saturday evening, July 14, 1917:

	Beef Cattle.	Sheep and Lambs.	Hogs
Total for week	3,371	6,498	6,153
Previous week	3,791	7,436	7,130

Calves.—Total for the week, 2,795; previous week, 2,326.

Beef Cattle.—There was a good inquiry for fine stock and the market ruled firm with some kinds a shade higher.

Steers.—Extras higher; good to choice, $12.25@13; fair to good, $11@12; milch cows, $75@120; bulls, $7.75@10.50; cows, fat, per cwt., $7.50@9.50; fair per cwt., $6.75@7.75; ordinary per cwt., $5@6.50; bolognas, $2.50@5. Calves, exceptional lots, $15.50@16; good to choice, $14@15; medium, $12@13; common, $9@10; Tennessee and southerns, $9@14.

Sheep and Lambs.—Sheep of fine quality sold fairly and ruled steady under moderate offerings. Lambs were quiet and easier under lower advices from the West.

Sheep.—Wethers, extra, $10.50@11; choice, $9.50@10; good, $8.50@9; medium, $6.50@7.50; common, $3@5. Ewes, heavy, fat, $8.50@9. Lambs—Extras, $16.50@16.75; fair to good, $15@16; common, $12@13.50.

Hogs.—Demand was fair and the market ruled steady under moderate offerings.

Best western, $15.75@16; lights, $14.50@15; roughs, $13@14.

City Dressed Stock.—Demand was active and the market ruled firm with prices of steers and cows slightly higher.

Steers, 16½@20c; heifers, 14@17c; cows, 12@17c; calves, 21@22c; southerns and barnyards, 14@17c; country dressed, 18c; extras, 19c; sheep, 21c; extras, 22c; lambs, 27c; extras, 28c; hogs, 22c.

PITTSBURGH LIVE STOCK.

Union Stockyards.
Pittsburg, Pa., July 16, 1917.

Cattle.—The supply on sale Monday was 120 loads compared with 110 loads the week before. The market ruled active at steady prices on all the better grades, while a few loads that were on the coarse and plain order sold slow at easier prices. Heifers were in fair supply, and the market ruled about steady on all grades, the better grades being in demand, but light ones on the stocker order were slow sale. Cows were in fair supply and sold about steady. Bulls were in liberal supply and sold lower. Best fresh cows sold about steady. Springers and medium grades sold slow. Today's supply was 150 loads. With the demand only moderate the market ruled slow and somewhat lower.

Good to choice	$12.50@12.75
Good, 1300-1400 lb.	12.00@12.50
Medium to good, 1200-1300 lb.	11.50@11.75
Tidy, 1050-1150 lb.	11.25@12.00
Fair to medium, 1000-1100 lb.	9.75@10.50
Fair, 900-1000 lb.	8.75@ 9.50
Common, 700-900 lb.	7.00@ 8.25
Rough, half-fat, 1000-1300 lb.	9.00@11.00
Common to good fat oxen	7.50@ 9.00
Common to good fat bulls	7.00@10.00
Common to good fat cows	6.25@ 9.50
Heifers, 700-1100 lb.	7.00@11.00
Bologna cows	5.25@ 6.00
Fresh cows and springers	25@90

Calves.—Calves were in fair supply, and medium kinds closed 50c per cwt. higher. Today's receipts were 1,250 head, which sold lower.

Veal calves	$10.50@15.50
Heavy and thin calves	5.00@ 8.50

Hogs.—The supply of hogs during the week has been fair, and with only a fair demand the market ruled fairly active with prices a shade lower, the close for the week being 10c per cwt. below Monday's prices. Today's receipts were 44 double-deck loads. The market ruled steady.

Prime heavies	$16.00@.....
Heavy mixed	16.00@.....
Prime medium weights	16.00@.....
Best heavy Yorkers	15.95@.....
Light Yorkers	15.50@.....
Good pigs	14.50@15.00
Common to good roughs	13.75@14.25
Stags	12.50@12.75

Sheep and Lambs.—The supply on sale during the week has been light and with a good demand for sheep, the market ruled steady on sheep and yearlings while spring lambs were dull and closed 50c per cwt. lower. Today's receipts were 12 double-deck loads. The market ruled active at steady prices on sheep, while lambs ruled slow and lower.

Prime wethers (95 to 100 lb.)	$10.25@10.60
Good mixed	9.25@10.00
Fair mixed ewes and wethers	8.00@ 9.00
Culls and common	4.00@ 6.00
Culls to choice yearlings	8.00@12.50
Spring lambs	10.00@15.25

J. F. W.

PHILADELPHIA HAY AND GRAIN.

Philadelphia, Pa., July 16, 1917.

Baled Hay and Straw.—Receipts, 552 tons of hay and 4 cars of straw. The market was quiet, with freer offerings at former rates. But a small proportion of the supply of hay was of No. 1 timothy and values of this description ruled steady. Quotations:

Timothy hay, No. 1, large bales, $10.50@21; No. 1, small bales, $20.50@21; No. 2, $17.50@18.50; No. 3, $15.50@16.50; sample, $11@13. Clover-mixed hay—Light mixed, $17.50@18.50; No. 1, do., $16.50@17.50; No. 2, do., $14.50@15.50. Straw—No. 1 straight rye, $13.50@14; No. 2 do., $12.50@13; No. 1 tangled rye, $12.50@13; No. 2 do., $11@11.50; No. 1 wheat straw, $11.50@12; No. 2 do., $10.50@11; No. 1 oat straw, $11.50@12; No. 2 do., $10@10.50.

Bran.—Supplies were small and the market ruled firm under a fair demand. Quotations:

Car lots, including sacks: Soft winter bran, in 100-lb. sacks, per ton, $37.50@38; spring bran, in 100-lb. sacks, per ton, $34.50@35.50.

Corn.—No. 3 yellow, $2@2.01; No. 4 yellow, $1.98.

Oats.—No. 2 white, 81@81½c; standard white, 80@80½c.

Rye.—Nominal.

NEW YORK HAY AND GRAIN

New York City, July 16, 1917.

Feed.—Nothing of particular interest developed in this market on Saturday. As a general rule prices were strong throughout the list, particularly for Western grades. A reduced mill output at the leading centers and the prospects of small receipts for a time continue as the main items accounting for the upward trend started a short time ago. Dealers, however, report that the consuming demand is quiet and that the business passing is only routine. Good pastures and weakness of other feeding grades do not seem to have much influence. Quotations (per ton): Prompt shipment. Western spring in 100-pound sacks, $35.25; standard milling, $44.00; flour in 100-pound sacks, nominal to arrive; red dog to arrive in 100-pound sacks, nominal; city feed bulk bran, $34.40; 100-pound sacks, $36.00; heavy feed in bulk $44.40; 100-pound sacks, 16; red dog, $57; flour, $56. Linseed oil meal, $50.50@51.00 per ton.

Hay and Straw.—The tone of the market is steady at terminal sheds on high grade hay, but weak at offroad track delivery stations. Shed prices on medium and low grades also well sustained, but other track markets rule weak with some sales under inside quotations.

Hay.—No. 1, $22; No. 2, $18@20; clover, $17@18.

Corn.—No. 2 yellow, $2.00. Last year, 90¾c.

Oats.—No. 2 white, 82c. Last year, 47c.

Rye.—$1.60@1.70. Last year, $1.07.

PHILADELPHIA DAIRY MARKET.

Philadelphia, Pa., July 16, 1917.

Butter.—The market ruled firm under light offerings, but wholesale trade, as usual on the last day of the week, was quiet. Fancy solid-packed creamery brought outside rates with little difficulty, while seconds were well cleaned up at inside figures. Fancy prints ruled firm, with demand absorbing the limited offerings.

Western fresh, solid-packed creamery, fancy specials, 42c; extra, 40@41c; extra firsts, 39c; firsts, 38½c; seconds, 37½c; near-by prints, fancy, 43c; average extra, 41@42c; firsts, 39@40c; seconds, 37½@38c; special fancy brands of prints jobbing at 46@49c.

Cheese.—Trade was quiet, but offerings were only moderate and values ruled steady. New York, full cream, fancy, new, 24¼@24½c; specials higher; do., do., choice, new, 24c; do., fair to good, 23@23½c.

ELGIN BUTTER MARKET.

Elgin, Ill., July 16, 1917.

Butter sales at 37½c.

NEW YORK MILK MARKET.

New York City, July 16, 1917.

Dealers are complaining that last week's weather left a surplus on their hands which, owing to the high League rate, they were unable to manufacture except at a loss. This fact made some of them rather gloomy. Consumers are beginning to complain about the raise in the retail price on July 1. The League rates for July to the producers of grade B (barn score 55) in the 26-cent zone are $2.10 a hundred pounds for 3 percent milk; $2.31, or 4.9 cents a quart, for 3.6 percent milk; and $2.45 for 4 percent milk.

The receipts of milk and cream in 40 quart cans for the week ending July 14 were as follows:

Railroad.	Milk.	Cream.
Erie	42,344	4,187
Susquehanna	5,487	10
West Shore	14,047	2,121
Lackawanna	68,930	4,720
N. Y. Central (long haul) including Rutland	139,499	5,156
N. Y. Central (short haul)	26,210	54
Ontario	37,612	5,607
Lehigh Valley	49,896	2,394
Homer Ramsdell Line	3,910	75
New Haven	6,215	157
Pennsylvania	21,110	685
Other sources	1,430	64
Total	416,690	25,230
Same week last year	392,641	23,390

TOBACCO MARKET.

It is authoratively estimated that 35,000 acres of tobacco are being grown in Pennsylvania as compared with 36,100 last year. This decrease is small indeed as compared with that accredited many other states, prominently Ohio, where the decrease is from 100,000 acres, the final estimate of last year to only 38,200 this year. These figures are apparently too good to be true. Most of the cigar leaf states like Pennsylvania show a practically stationary acreage and it is indicated that upon the whole the reduction in that product will be comparatively small. In the states growing the various plug types the reduction is much greater, for instance in the great burley region of Kentucky the decrease is given as from a total of 481,000 acres in 1916 to 317,050 this year and in North Carolina from 320,000 to 250,000 and in Virginia from 190,000 to 150,000, etc. Generally unfavorable weather conditions resulting in a scarcity of plants is given as the principal cause of the shortage. It is believed that the desire to grow food crops had little if any influence upon the planting and that owing to the unusually satisfactory price received for last crop a record making crop would have been grown had it been possible. The cigar leaf planter has little to fear on account of his relatively high acreage for there does not seem to be the slightest chance of anything akin to an overproduction on his part. The visible supply of cigar leaf tobacco has not been so small in many years and it only remains to grow the best possible crop and intelligently price the same that results even exceeding those of late sales last year may be generally attained. — H. E. Tweed, July 16.

NEW YORK PRODUCE.

New York City, July 16, 1917.

Larger quantities of butter are on hand and the market is weaker. Cheese is about one cent lower than last week. Arrivals of eggs are lighter, and new laid grades are scarce. Potatoes slightly weaker but prices unchanged.

Butter.—Creamery, extras, (92 score), per pound, 38¾c; higher score, 39@39¾c; thirds to firsts, 34@38½c; state dairy, 33@38½c; ladles, 31@34c.

Cheese. — Fresh colored specials, 23¾c; white, 23@23¼c; undergrades, 10@18c.

Eggs.—Fresh gathered extras, 37½@38½c; extra firsts, 36@37c; near-by white, fine to fancy, 41@43c; ordinary to good, 38@40c; browns, 37@40c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 35c lb.; old roosters, 17½c; squabs, $1@4 per dozen. Spring ducks, per lb., 21@22c; turkeys, fresh killed, 22@23c.

Vegetables and Greens.—Asparagus, green, $1.25@3 doz. bunches; white, 50c@$2.50. Beans, per basket, 75c@$2.25. Beets, per bbl., $2@2.50. Onions, per crate, 50c@$1.35. Potatoes, Jersey, $3.00@5.50 per bbl.; Jersey sweets, $1.50@4 per basket. Carrots, $2@4 per bbl.; lettuce, 25@60c basket; spinach, per bbl., 35@75c; cucumbers, 40c@$150 basket; radishes, $1 per barrel.

Country Dressed Veals. — Choice, 23c; prime, 21@22c; fair to good, 20@20½c; coarse, heavy, 18@19c; buttermilks, 15½@16c.

CHICAGO HORSE MARKET.

Horses were marketed sparingly last week and sold at former prices, altho activity was restricted to horses wanted for the United States and British armies. Horses accepted for army purposes sold quickly, and more could have been disposed of had they been offered. The horses rejected for army use had a slow and unsatisfactory sale, however, and in some cases owners lost money on them. Two express loads of good 1400-lb. horses were shipped to the Pennsylvania mine district at a cost of $185@210.—F.

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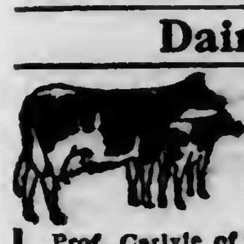

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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Flat Feet.—I am anxious to know what can be done for a horse that has weak, flat, tender fore feet. This horse is sore and favors his fore feet very much, especially when driven on rough, hard, uneven roads. I have been told that a thick shoe with boiler-plate sole to prevent pebbles or clinkers bruising sole of foot would relieve him. I. B. N., Van Etten, N. Y.—To shoe him the way your friend suggests is all right. Between the steel plate and bottom of foot you should pack pine tar and oakum. Also, apply wet swabs to outside of hoof frequently to moisten fore feet. The most relief will follow proper shoeing and he will travel best if shoe is given some rolling motion.

Influenza.—I have a horse, five years old, that had pink eye. Now her eyes have a milky, cloudy appearance. I would like to know if anything can be done to clear the eyeball and improve her sight. P. G. H., Mifflinburg, Pa.—Give her two teaspoonfuls of Donovan's solution of arsenic at a dose in feed or drinking water, three times a day, and her eyes will perhaps clear up fairly well. Blowing a small quantity of equal parts calomel and boric acid into eyes twice a week will help her. Remember that a bright light always irritates a sore eye.

Injured Neck.—I have a four-year-old horse which while running in pasture some three weeks ago became tangled in the halter strap and injured his neck. The muscles of neck are swollen. I have rubbed them with lard and turpentine, but he does not appear to improve. What can be done for him? J. A. M., Lakewood, Pa.—Apply one part tincture iodine and four parts camphorated oil, once or twice a day. I might say that an injury of this kind is very often slow in getting well.

Pig Coughs—Indigestion.—I have a pig, about three months old, troubled occasionally with spells of coughing. While he has a fit of coughing, the muscles of flank seem to jerk considerably. What had I better give him or do for him? I also have an old horse which is thin and in an unthrifty condition. Have had his teeth floated, but he fails to pick up. H. C. H., Oxford, Pa.—Mix together equal parts cooking soda, salt, ginger, gentian and powdered charcoal. Give your pig a teaspoonful at a dose in feed, two or three times a day. Give your horse one dram fluid extract nux vomica, one ounce tincture gentian and three drams Fowler's solution at a dose in feed or drinking water, two or three times a day.

Lymphangitis.—I have a horse that has a badly swollen hind leg. He has been in this condition before, having had several attacks, but none of them quite so severe. His leg is tender and painful to touch. Standing in stable seems to make him worse. This horse has done heavy hauling for several years. I am sure he needs some kidney medicine, but sulphur is the only remedy I have given him. J. S., Dalles, Pa.—First of all, bear in mind that feeding too much grain to idle horses is the most common cause of this ailment. Give him 2 drams acetate potash at dose in either feed or drinking water, three times daily until his kidneys act freely; then give smaller doses and not any more often than is necessary. His bowels should be kept open and grass is the least expensive laxative you can furnish him.

Kicking Mare. — My eight-year-old mare will kick, squeal and squat whenever a person approaches her. I have put ropes on her, thrown her down and fired off gun, thinking it might cure her of this ticklish, nasty habit, but it had no lasting effect. Have doped her with bromide of potash, but this is expensive. I bred her ten days ago which seems to have made her worse. J. Y. D., Loysville, Pa.—Either have her spayed or work her in hopples, such as trainers use on trotters and pacers and she will be more safe. It would be a mistake to give her drugs, as she would soon acquire the drug habit. Besides, it is unlawful for a druggist to sell such remedies to you.

Ringworm. — I have a calf, three weeks old, with dry sore patches on nose, over eyes and on side of neck. A. W., Hortonville, N. Y.—Apply equal parts tincture iodine and glycerine to sore parts, three times a week.

COUNTY NOTES

Broome Co., N. Y., (S.E.) June 30.—Heavy thunder storms are doing much damage. Cold nights are retarding growth of crops. Strawberry season, usually over by the Fourth, is just starting. The berries are fine but a short season is expected; selling 18c per quart. New southern potatoes are selling from stores at 79 cents per peck; old potatoes, $3.50 bu; eggs, 35c doz; butter, 40c lb; broilers, 32c live weight; fowls, 22c live; pork, 20c lb; oats, 76c bu; corn, $1.84 bu; ground oats, $48.50 ton; bran, $35 ton; mixed feed, $43 ton; corn meal, $67 ton; hay, $13 to 15 ton. Hay prospects are good but if rains continue it will be hard to gather. Low lands are flooded. Corn and potatoes look good. Considerable cabbage set out. Help scarce. Apple prospects poor.—C. H.

Cumberland Co., N. J., (S.) July 5.—Very wet the last few days, after a long dry spell. The rain came just in time to save the potato crop. Late potatoes do not look very good for the time of year. Corn is growing nicely. Wheat is the heaviest for several years; harvest starts next week. Wholesale milk is 6 cents per quart at barn.—E. H. Sheppard.

Venango Co., Pa., (N.W.) July 8.—June was wet and unpleasant. Fair weather now. Live stock doing well and prices high. Crops not in good condition because of too much rain. Eggs, 30c doz; butter, 35c lb; chickens (alive), 21c lb; veal (hog-dressed), 17c; potatoes, 75c pk; hay, $16 ton; straw, $12 ton. Farm work very much behind because of so much rain. Very little buckwheat planted yet. General conditions not as good as we would like.—W. J. Pringle.

Ontario Co., N. Y., (S.E.) July 10.—Farmers are facing a rather serious situation with wet weather. Rains are coming in greater or less abundance on an average of 24 hours apart. Damage is done on such hill lands as do not let off surplus water readily, being underlaid with hardpan. If present conditions continue thru haying, this important crop will have to be cured on wet ground and will be musty. On a neighboring farm more than 20 acres of hay is laying partially in cock, partially bunched with a rake and some in swath. Some of this is alfalfa. Potatoes are growing rapidly but will probably blight if wet weather continues.—C. M. Drake.

U. S. CROP REPORT.—JULY

The U. S. Department of Agriculture reports on condition of farm crops for July 1, this year and last as follows:

Winter wheat	75.9	75.7	14.6	13.8
Spring wheat	83.6	89.0	14.5	8.8
All wheat	78.9	79.9	12.1	15.4
Corn	81.1	82.0	24.4	26.0
Oats	89.4	86.3	30.1	31.7
Barley	85.4	87.9	23.6	26.5
Rye	79.4	87.0	15.3	16.5
Wt. potatoes	90.1	87.8	80.4	98.3
Swt. potatoes	81.9	90.4	91.7	95.4
Tobacco	86.8	87.6	815 lb	788.6
Hay	84.3	93.5	1.5 t	1.53
Apples	64.0	68.1		
Peaches	55.2	52.2		

The above condition indicates total yields as follows, compared with last year's harvest:

Winter wheat	402,000,000	482,000,000
Spring wheat	276,000,000	158,000,000
All wheat	678,000,000	640,000,000
Corn	3,124,000,000	2,583,000,000
Oats	1,453,000,000	1,252,000,000
Barley	214,000,000	181,000,000
Rye	56,100,000	47,400,000
Wh. potatoes	452,000,000	285,000,000
Swt. potatoes	82,200,000	71,000,000
Tobacco, lbs.	1,215,000,000	1,151,000,000
Hay, tons	103,000,000	110,000,000

Estimates of the number of farm tractors in actual use in the United States show Illinois leading with 3,202. Kansas is second with 2,287, followed closely by Texas, Iowa, and North Dakota with over 2,000 in each case. New York ranks twelfth with 1,210.

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Preparing For a Bumper Wheat Crop

Factors in Seeding That Will Count Heavily in Next Year's Important Harvest

By H. M. ANDERSON
York County, Penna.

There are quite a number of factors that enter into the growing of a crop of wheat, some of which are vastly more important than many farmers seem to realize. Probably the most important factor, and the one in which there seems to be wide diversity of opinion, is the preparation of the seed-bed. In our section of the country this used to be a much more simple matter than it is today. Our farmers all practiced a five-year rotation in which most of the corn ground was seeded to oats. The oats were cut in July, giving two months or more in which to plow and prepare the seed-bed for wheat. And let me say right here, two months is not much too long in a dry season if one is to have the best possible seed-bed. But today we are up against a very different proposition and the fact that the average yields have been maintained and even increased proves conclusively that better methods have been adopted along some other lines and that better farming is being done.

A ROLLER AND PULVERIZING INSTRUMENT THAT DOES GOOD WORK.

Today most of us are growing a considerable acreage of potatoes, a few acres of tomatoes, some soy beans, sweet corn or tobacco and more or less field corn, on the ground that formerly was farmed in oats. The result is that there is very little time to prepare for wheat after these crops are taken off, and the moisture content of the soil has usually been seriously depleted by the growing crop and by evaporation. Thus it takes very careful work to get a good healthy stand of wheat.

To get an ideal seed-bed for wheat we should plow early, harrow and roll thoroly and then harrow as soon as the ground is fit to work in after all rains; this to build up the moisture content of the soil. It is possible to accumulate a great deal of moisture in this way even during very dry seasons, and wheat seeded under these conditions almost invariably finds plenty of moisture present to grow well even if the weather is dry both before and after seeding. I would guarantee to produce a good moist seed-bed the dryest season that I ever saw if I had all of August and September to do it in, but I would not let it lie and bake for a month or so while I was waiting for a rain to make it moist enough to plow.

8-16 TRACTOR ON 2 DOUBLE CUTAWAY HARROWS, A. D. RUSSELL FARM, MERCER CO., N. J.

Wheat, oat or hay stubble that is well disked soon after the crop comes off will accumulate enough moisture in a couple of weeks by capillary action or the natural rise of water from the subsoil, and rain is not necessary to put the ground in shape to plow. In fact, I would prefer to have the rains after the ground is plowed so I could get the ground worked up in good condition and the moisture channels established in the subsoil. This is not theory. I have proved it repeatedly in my own farm practice and know that it is best.

To grow well, wheat absolutely demands a well-prepared, well-compacted seed-bed. I do not believe that a roller has any place in a potato field; it should be used with discretion in a corn field, but the wheat field cannot well be rolled too much. It must be well compacted or it must be well supplied with moisture by repeated soaking rains all fall in order that wheat may do its best. For this reason we usually find it practical not to plow the ground for wheat after crops such as late potatoes, corn, tomatoes, tobacco and soy beans, for there is not time enough to thoroly prepare and compact it and get capillary action started thru it in time to seed to wheat.

In such cases, the disk-harrow, set not to cut too deep and run until the upper three or four inches of soil is thoroly worked up, makes a splendid seed-bed. This ground should then be harrowed lightly with a spring tooth harrow or a smoothing harrow and rolled with a wrighted roller, probably a couple of times. It will then be in much better condition for fall growth than if it had been plowed; particularly if the fall should be fairly dry. I prefer cutting up tomato vines and corn stalks and letting them lie on the surface as a mulch rather than hauling them off, as is so often done. It is much easier done and really helps to hold moisture in the surface soil.

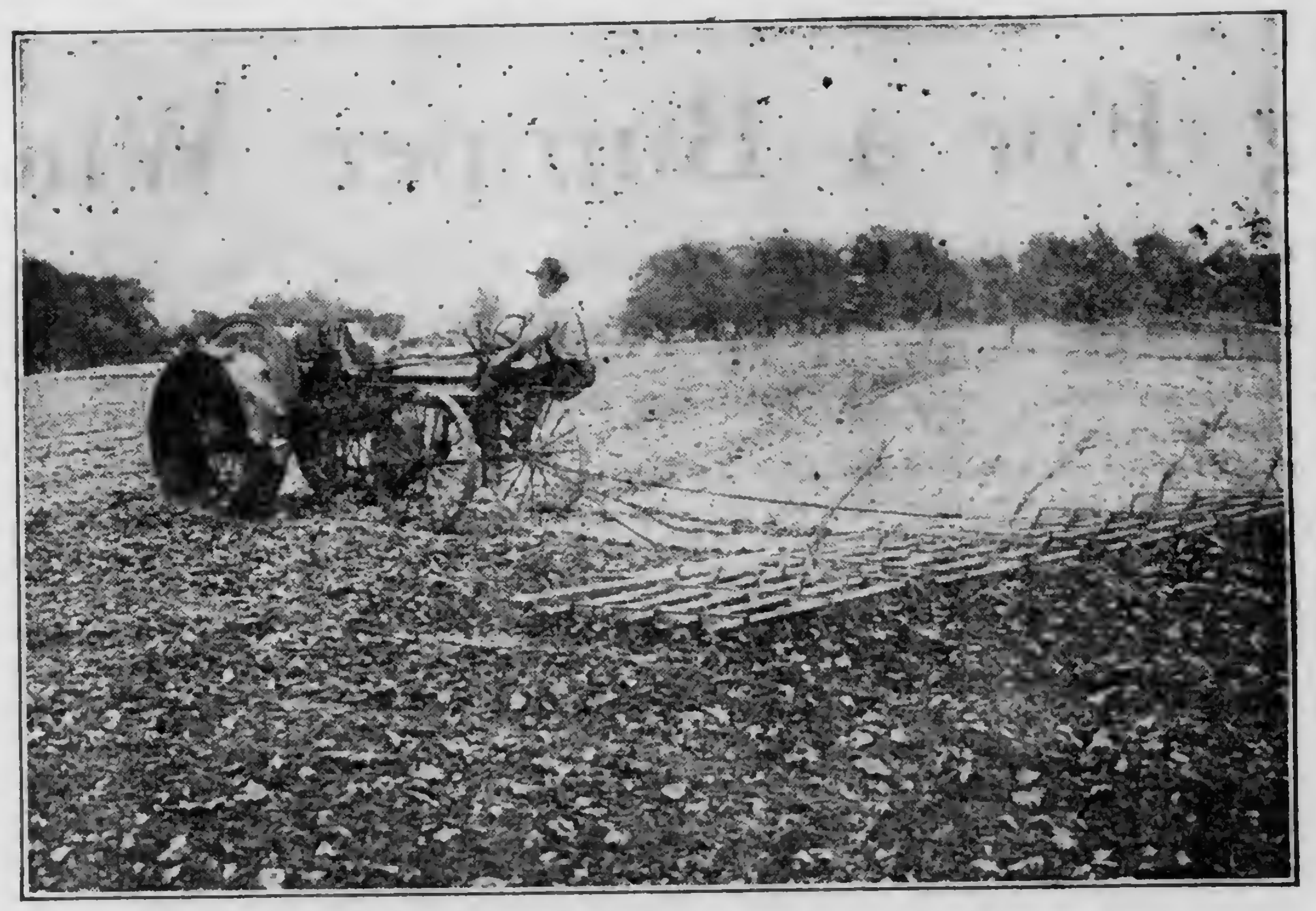
The man with late maturing crops on his land intended for wheat is, of course, at a disadvantage. He should get them off just as soon as possible, get his seed-bed worked up just as soon and just as fine as possible, and have it thoroly compacted with just enough loose earth on the surface to cover all the grain. Then the probability is that he will grow a much better crop of wheat than the man who had all fall to prepare his seed-bed but who waited a month or more for a rain to make it fit to plow. Too often the latter lets the ground lie and bake after rains instead of harrowing as soon as it is fit to harrow.

Clean The Seed

Another important factor in growing a good crop of wheat is the seed that you sow. I do not propose to discuss varieties at all. Certain varieties seem to be particularly well adapted to certain soils and climates, probably thru being acclimated there, and almost every one has or knows where he can get a good variety of wheat. But I do want to criticise the man who will go to his bin and take out wheat for seed without fanning it, and fanning it quite hard.

I believe that most farmers clean up their seed wheat, but how do they do it? The majority simply take out the chaff and screenings, and probably not all of the screenings. Those same farmers would not think of going to a bin of corn and sorting out some of it for seed and then planting big grains and little grains of corn. They know that they would grow an uneven crop of corn if they did.

I have found that very thoro cleaning and grading of the seed wheat will increase the acre yield several bushels, and that it is one of the best paying jobs that I do on my farm. I use a screen that will let the medium and small sized grains thru with the screenings and set the fan so that a hard blast of wind will carry the lighter grains over with the tailings. I get about 40 bushels of really good seed out of about 100 bushels of wheat; the other 60 bushels, of course, are sold with the rest of the crop for milling purposes.



A 5-10 TRACTOR ON WIDE SMOOTHING HARROW.

I find that this method of cleaning the seed has a cumulative effect; that is, the grain and the yield get larger year by year, and I do not think one can put too much emphasis on its importance. We all know, but sometimes lose sight of the fact, that like begets like and a big grain of wheat will grow a much larger percentage of big grains than a small one, and it does not take nearly so many of them to make a bushel.

Wheat is a self-pollenizing plant and it is not practical for the farmer to do anything in the way of cross pollenizing or hybridizing. That is too complicated anyhow. But if one wants to get a uniform article of a certain type, it is not very much trouble to pick heads true to that type and plant in a small seed plot. The average man will not go to the trouble of doing this, and I do not blame him, but there is no excuse for the man who plants small, light seed wheat and there should be no sympathy for him when he harvests a light crop.

The amount of seed necessary depends largely on the variety but it also varies with the period of planting. Late seeding cannot stool out so well and it is practical to use considerably more seed if it is planted very late.

Fertilizers

Perhaps the next most important factor is fertilization. I find that I cannot grow even fairly good crops of wheat without the use of commercial fertilizers. Not that I have ever tried to do so, but I sometimes see where one end of the fertilizer box got empty near the end of the return trip, and it surely looks as tho money spent for fertilizer was money well invested. It has been quite a problem to get what you want in the way of fertilizers for the past two years, but it is now a problem to get anything at all in that line.

Fertilizing ingredients are now up about 50 percent above the spring prices and freight rates are up and freight service uncertain. But I am sure that it would be false economy to decrease the application of fertilizers at this time. We should bear in mind the fact that wheat has been selling at more than double the normal price, the next twelve months will probably establish a new high record and even the crop that we plant this fall should bring at least double the normal price. Fertilizers have not doubled in price yet, so, relatively speaking, such forms of fertility as are still obtainable are comparatively cheap. Of course commercial potash is out of the question but there is lots of latent potash in most soils that can be made available by intensive cultivation and the plowing down of vegetable matter. Lime also liberates some of the potash in the soil and, speaking relatively, lime is cheap now and if the labor to apply it is at all obtainable this would certainly be a good time to lime soils that have not been limed recently or that are not growing good crops of clover.

Dissolved rock is probably the most practical source of phosphoric acid and about half of the nitrogen applied should be applied in the form of nitrate of soda. This is particularly true of the late seeding for this form of nitrate forces growth so much more rapidly than any other form of nitrogen and if we can get a good healthy growth in the fall and get the ground well covered before winter sets in we have the situation well in hand.

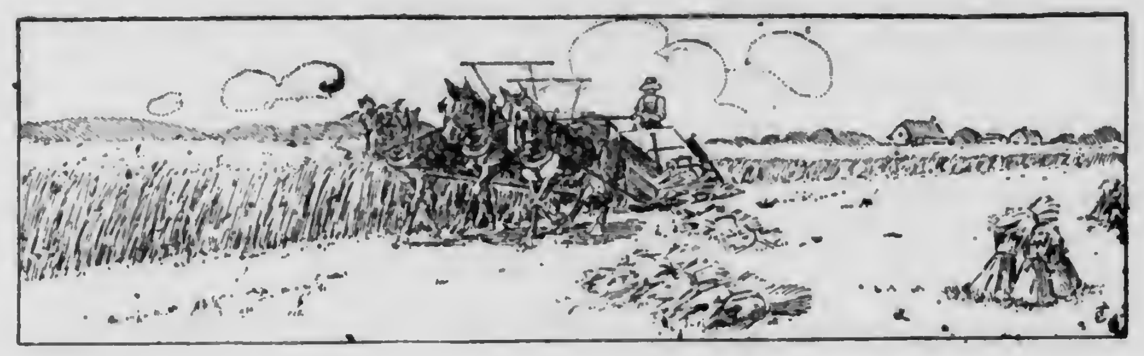
We should apply the rest of the nitrogen in a more slowly soluble form such as tankage, dried blood or fish scrap for the spring growth.

Of late years I have been applying considerable of the farm manure to the later seeded wheat during the winter months when the ground is bare and frozen, and I think it one of the very best places that manure can be applied. Such an application materially improves the wheat, makes a much more favorable seed-bed for the clover and is really worth as much in the way of a mulch during the ensuing year as in the fertility that it contains.

Time of Seeding

The time of seeding is another important matter, but it is impossible to lay down any hard and fast rules. Seeding is an individual problem in which one must be guided by the weather, the help available, the condition of the seed bed, etc. Speaking generally I would not seed here in southern York County before September 25 to 28 on account of the Hessian fly; but I would seed just as soon as possible after that if the seed bed is properly prepared. Of course this date would vary with latitude and altitude and probably with the lay of the land—whether warm or cold exposure.

In conclusion I want to say that this is a season that the practical, level-headed farmer is going to prepare the very best seed-bed that his conditions will allow. He is going to use the heaviest, plumpest seed wheat that he can get. He is going to fertilize heavily in spite of high prices and make every effort possible to grow a bumper crop. For, whether he looks at it from a practical or a patriotic point of view, it is desirable to grow just as much wheat as he possibly can. When we realize the great need of the nation and her allies and that the feeding of all the allied armies devolves largely on us, if we are not to finish this war single handed a few years hence, I am sure that the American farmer will rise equal to the situation.



(Note.—It may not be out of place in connection with this article to call the attention of farmers to efforts which may be made again this year, as they have for many years, to sell new and wonderful varieties of wheat for seed. Wonderfully ingenious stories have been concocted telling how a new variety originated, where it was discovered, etc., and claiming yields of two, three, or four times those of known varieties. Last year the government published cautions concerning wheat fakes, having tried out many of them and checked up others, only to find that most of these claims were highly exaggerated, and in many instances the varieties were not so good as the wheat already grown in the neighborhood. Exhorbitant prices are usually charged for the seed.—Editors.)

THE COUNTY FAIR---I By Fair Goer

The agricultural fair, or the County Fair, as conducted today is primarily to make money. The wider the fair is advertised and the more attractions it can offer, the larger the attendance and consequently the better financial gains. No matter what kind of exhibits the fair ground contains, if the people come and the gate receipts are more than the disbursements "The Great County Fair" is a success; or at least it is so in the minds of many fair associations. We often hear the comment by some member of a fair association whose fair is on the "downward road", "The farmers don't seem to take the interest in the fair they used to". The answer is that "you can humbug all the people some of the time and some of the people all the time, but you can't humbug all the people all the time."

The poor attractions, poor exhibits, low prizes, low shows, will surely react to put the fair out of business.

Let us discuss in simple language the County Fair as we find it today. Let us handle without gloves some of the things we know to be true about our fairs. Let us treat in all honesty this institution which should be of great value to the agriculture of Pennsylvania; but which now is a menace to good farming, to morals, to sobriety and to honesty.

What It Is Now

Too many of our fair associations have catered to the careless crowd; the crowd that is attracted only with the more rude things, the immoral show, the dancing girls, etc. Thousands of farmers have gone home disgusted with the midway features and the type of show found on many of our fair grounds.

Just imagine a young farmer with his wife and little girl walking down the midway of a County Fair. On one side is a stand with a paddle wheel for selling or chancing off watches. Next to this booth is a stand where boys are shooting at cigarette boxes with an air rifle. On the other side, flaunting her colors of red, is an old woman who will tell your fortune for a dime or ruin your morals for a larger price. Beyond this booth with its flaming colors is a tent with beautiful colors of gold and red. Upon a stage in front are three or four half-dressed girls, who, with their actions, songs and seductive glances shock the sensibilities or degrade the morals of those who pass. They attract the weak, the unsophisticated and the drunk.

The "faker" who plies his trade, unmolested by officers of the law, sells novelties which cost five cents for two or three times their value. He prays upon the country boy or girl, selling if he can, short changing when he can, picking pockets or deliberately robbing if opportunity offers. He is an undesirable citizen at all times and particularly so at fair time.

The Racing

Every man loves a good horse. Every human being with red blood enjoys a race; let the best horse win. But does he win? The poor horse is often doped. The jockey contrives to foul the good horse that should win. Every trick of the race track is practiced, and the best horse does not always win. And the larger the prizes the more likelihood of jockeying.

Inferior Exhibits

Many of our fair grounds do not have a good exhibit building and consequently most of the exhibits are not of the best grade. Exhibits of the largest potatoes are not desirable. Immature corn judged on size alone and the large loose head of cabbage means little. In fact, the exhibits do not usually show or even indicate the type of agriculture to be found in the county.

Many fairs still offer prizes for scrub cattle and the judge is forced to issue first, second and third prizes even if the animals are such poor individuals that they would be unprofitable on the farm. Some of our fair associations should be ashamed to look a good cow in the face after they have awarded a blue ribbon to a cow that will never pay for her feed, let alone pay her owner for his labor. Nor should they be allowed to associate with a purebred hog after they have classed as a purebred Berkshire a hog with a long snout, swayed back, drooping ears, light ham and long neck. But still they do it.

One serious drawback to good fairs is small prizes, and to go a step farther, some associations award but never pay the prize money. One breeder of cattle in Pennsylvania was awarded prize money but never received his check, consequently he never shows his cattle on this fair ground even tho it is within two miles of his farm.

Local Judges

A local man is often selected as judge. Some of these men are good judges but they work under difficulties at their local fairs. The local man may be related to some exhibitors and his placing is always questioned. Many times he is not a good judge of cattle or products. A large fair had this trouble last year and it will likely lose a number of exhibitors for some years to come. If an exhibitor sees a decision given to one man when it is evident to all that it should be given to another, this exhibitor, even tho he may profit by the decision, will avoid this fair in the future.

The Drunk

A number of fairs still allow a bar upon the grounds, over which is sold the vilest kind of drinks. It is hardly safe for a woman or girl on such grounds after 4 P. M. on the "big day" or the last day. Officers of the law are lax. Small concession men bring on large trunks. The concession man was perhaps a former police officer, so they do not watch him and he sells it. The fair ground is located with a gate near a hotel; they give return checks and those who will bring it in by the bottle.

Dining Facilities

There are very few fairs where even a fair dinner can be purchased, or even clean sandwiches. The everlasting "hot dog" cooked three times or not at all, fried in grease, salted with sand, dirt and filth, are ever present. Only within the last two years has fruit been offered for sale upon any number of our small fair grounds. Even the local churches have left the fair, disgusted with the dirt they get in their cooking. If it were all sand and it got in their systems properly they would erect permanent stands and serve good clean food, home baked pies, fried chicken and good clean lemonade.

Comfort Stations

After all the fair buildings are built, after the fence around the grounds is completed, the remaining lumber is used to build two toilets, and they are placed in the most inaccessible places on the grounds. They are the last things built, and the last to be repaired.

In fairness to the Pennsylvania fairs we should say most all have some good points and all have many bad ones. In another article I hope to show what the County Fair should be like and how this can be accomplished.

It is impossible to say how many thousand dollars' worth of time of men and horses is wasted every year by the present plan of having each individual farmer go to town with a few vegetables, chickens, eggs, or a pound or so of butter. How much better is the plan adopted sometime ago by one neighborhood. One man was employed to act as market agent for the entire group, going to the market town, say on Tuesdays, Thursdays and Saturdays, and selling for a commission of 15 percent. Better prices are received and much time is saved.

BY THE WAY

One of the first commercial materials to be purchased by farmers and applied to the soil was gypsum, or land plaster. Gypsum is sulphate of lime in combination with water. It contains about 33 percent of lime, 46 percent of sulphuric acid and 21 percent of water. When it is burned and the water driven off, plaster of Paris is formed. It is in the unburned form that it is used as a "fertilizer". Its action is not fully understood by soil students, but it does aid in getting a stand of clover.

Thirty and more years ago it was common, especially in non-limestone soils, to "plaster" the corn and potatoes. This was usually done after they were up by dropping it on top of the hill, usually about a handful to three or four hills. The chicken manure was generally saved for this purpose and was dried and mixed with the plaster. That it did some good was proved by the fact that rows left untreated did not grow as well. The probable effect of the plaster was to make available some of the potash and phosphoric acid in the soil, and hence, like lime, does not act as a fertilizer in the true sense.

WHERE SEED TIME AND HARVEST HAS NOT FAILED.

For the same reason it aided the growth of clover. The writer remembers a striking example of its effect in this way while a boy at home. The farm was not limestone land and it was impossible to grow any clover to speak of. A hillside across from the house was planted to corn and "plastered" after it was up. The corn was followed by oats and sown to grass and clover. Every spot where a hill of corn grew two years before could be located by a little bunch of clover—the only clover in the field. The balance was only natural grass, or "dog hair", as we called it. It was probably the liberation of potash that enabled the clover to grow. Afterwards, when the field was limed, clover grew rank.

Land plaster was used in some localities as an absorbent in the stables. It was discovered that manure thus mixed with plaster was more beneficial to land than that not so treated. This was due, no doubt, to the retention of a greater part of the liquids, and therefore a saving of a larger portion of the potash. A small amount of lime would also be added in the plaster.

The use of plaster has almost passed. Soil chemistry has taught us something about the content and needs of soils. Experience has shown that lime is a much cheaper and more effective agent to use where lime is needed, and that the use of acid phosphate or pulverized rock are more valuable and economical as stable absorbants than plaster. So, by study and experience, we are adding little by little to the fund of agricultural knowledge.

The dissemination and application of agricultural knowledge has not kept pace with its discovery. For instance, it is well established that an absence of sufficient lime in the soil limits, or even decreases, the value of manures, fertilizers, and green crops plowed under. In spite of this well-know fact, there are thousands of farms hungry for lime and limited in their production, even tho pretty well supplied with manure and fertilizers —many erroneously thinking they may omit lime if other things are supplied generously.

As long as farmers could purchase nitrogen in nitrate of soda at $35 to $40 per ton, many were careless about co-operating with Nature in the matter of adding nitrogen to the soil. Since its an ill wind that blows no good, it may be that the stoppage of the trade in nitrate will induce some of these careless ones to adopt a few of the rules found in Nature's book and apply them. One of these rules is:

Add to the soil in right proportions the following: (1) Lime to make the soil sweet, or at least neutral; (2) seed of leguminous plants, such as clover, peas, beans, vetches, etc; (3) inoculating bacteria of the kind suited to the plant.

The application of this rule will bring the desired answer, viz: Nitrogen stored in the soil for the growth of plants. Try it, but do not neglect to use all three of the parts.

Even with the universal application of this rule, there is need of soluble nitrogen at a fair price, and even the best and most careful farmers will welcome a return of normal conditions in the fertilizer trade. In the meantime let farmers, by the aid of leguminous stubble and cover crops and the judicious care and use of manure, seek to avail themselves to the utmost of the methods Nature has provided for maintaining the fertility. While her methods are a little too slow to enable the farmer to bring up a run-down soil and at the same time provide a living and expenses for the farmer and his family without the help of other agencies, yet he who dares to neglect the natural methods, even while using commercial materials liberally, will fail in the end. The most successful farmers are those who have combined the two, and this period of enforced economy is a good time for those who have been neglecting the natural to begin by sowing cover crops on all fields which would otherwise be bare, and by the application of lime where none has been used for a few years.

—Father Penn.

Handling Manure

A good way to handle fresh stable manure after haymaking is to spread it over the mowing fields. Such an application usually doubles the hay yield. That no doubt would pay for itself but that is not all the benefits that will be derived from such an application. The grass roots will be increased in the same proportion as the hay yield. Roots add humus to the soil. Rotting roots loosen the soil and cause it to be more porous. Such a soil holds more moisture and permits the air to penetrate more readily.

Some of the plant food in the manure leaches into the soil and is stored there for succeeding crops. A grass field handled in this manner makes an ideal sod for corn, and no doubt all the crops in the rotation are benefitted by that top-dressing.

The farmer should make all the manure he can, and save every particle. Spread it upon the land and have it work for him as many days during the year as possible.

Manure spread upon sod in summer will start the grass to grow in a very short time after applied. The farmer does not have time to spread the manure by hand as it should be spread. The result is that some of the plants are smothered and others are starved.

The manure spreader should be used for top-dressing. If the spreader is operated carefully, the manure can be spread so evenly that nearly every grass plant gets its share of manure.

All straw that is used for bedding should be cut. There are machines upon the market that will thrash the grain, cut the straw and blow it into a mow in one operation, and do it very rapidly. Only three or four men are required to operate such a machine. The grain can be hauled from the field and run thru such a machine almost as quickly as it could be stored. Cut straw requires less than one half the mow room than loose straw, and will keep animals cleaner, absorb liquids more readily, and work much better in a spreader than long straw. --E. H., Montgomery Co., Pa.

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The Dairy

OLEO LEGISLATION

At this writing, the 65th Congress has done nothing relating to oleomargarine legislation, altho there have been three bills introduced by the oleomargarine interests. One is by Senator McKellar, of Tennessee, known as Senate Bill No. 294. The title of the Bill is: "A bill to reduce the tax on oleomargarine." This bill assesses a tax of one cent a pound to be paid by the manufacturer on every pound or part of a pound package of oleomargarine. It would reduce the 10 cents a pound tax on colored oleomargarine to one cent a pound, and increase the tax on uncolored oleomargarine from ¼ of a cent a pound to one cent a pound. The bill has only one short section and mentions no other changes.

Congressman Sabath, of Missouri, introduced a bill entitled: "A bill to change the name of oleomargarine to butterine, and to change the rate of tax on butterine; to protect the consumers, dealers and manufacturers of all kinds of butterine against fraud; and to afford the Bureau of Internal Revenue more efficient means for the detection of fraud and the collection of the revenue." This bill contains 14 sections, and repeals the Acts of August 2nd, 1886; the Act of October 1st, 1890, and the Act of May 9th, 1902. It taxes all oleomargarine, whether colored or not, one cent a pound. It requires that all butterine be put up in ½, 1, 2, 3, 4, 5 and 10 pound bricks, prints or rolls, with word butterine indented on the surface thereof, and that the container shall also be stamped with the word butterine. It permits all stuff previously known as oleomargarine (which means any kind of grease) to be mixed together with extracts and certain mixtures, with cream-butter or with milk. In short, this butterine can be made of anything and then colored to look like butter. It provides for a $500 manufacturer's tax, a $50 wholesaler's tax and $6 for a retailer. This bill has the earmarks of the beef trust, its object being not to cheapen the imitation butter, but to make it possible to get more money from the consumer for an inferior product.

Congressman Aswell, of Louisiana, introduced a bill entitled: "A bill to authorize agricultural colleges and experiment stations to investigate and to teach the science and art of manufacturing and using oleomargarine, and to exempt such colleges and stations from the imposition of special taxes and the payment of taxes." He intends to change the work of our agricultural colleges from that of teaching soil conservation to that of conserving the fortunes of the beef trust. We understand that a few of the agricultural colleges bit at this "sucker bait". A better heading for the bill would be: "A plan to destroy American agriculture and the conservation of the soil, in order to increase the price of imitation food products to the consumer, for the benefit of the meat monopolists."

The Agricultural Committee of the National Research Council, which I understand is an adjunct to the National Defense Council, has a resolution asking that all restrictions be removed from oleomargarine, on account of the scarcity of powdered skimmed milk. How ridiculous this reasoning, but it shows the activities of the beef trust and its allies.

On account of the war, every kind of scheme is being devised at our National Capitol to further the interests of the monopolies, under the pretext of conserving and increasing our food supply, while in reality their ultimate effect will be to do the reverse. We know it is a very busy time for the farmers, but they should keep their U. S. Senators and Congressmen informed that they will not stand for any such legislation. Write at once, because something is liable to turn up at any time; in fact, we understand it is the intention of the beef trust to push its oleo legislation at this session, and may possibly try to add it to the Revenue Bill. Prompt action is needed. Write and wire.—Wm. T. Creasy, Sec. National Dairy Union.

WHEN THE MEAT PLATTER OUTBIDS THE MILK BOTTLE

The pressing necessity of securing greater crops has been instrumental in bringing farming up to its rightful position among the industries of the nation. Agriculture is the foundation of civilization; and we must not be unmindful of the fact that it stands at all times supreme among man's material interests, underlying and upholding all others. A special drive filled with patriotism such as we have witnessed in this country cannot fail to quicken the step and bring forth the best energies of both hands and brain among the more progressive farmers, and it is hoped that the expectations for increased harvests will not be disappointed. It will be seen that agriculture and all of its branches, with but one exception, is enjoying unusual prosperity.

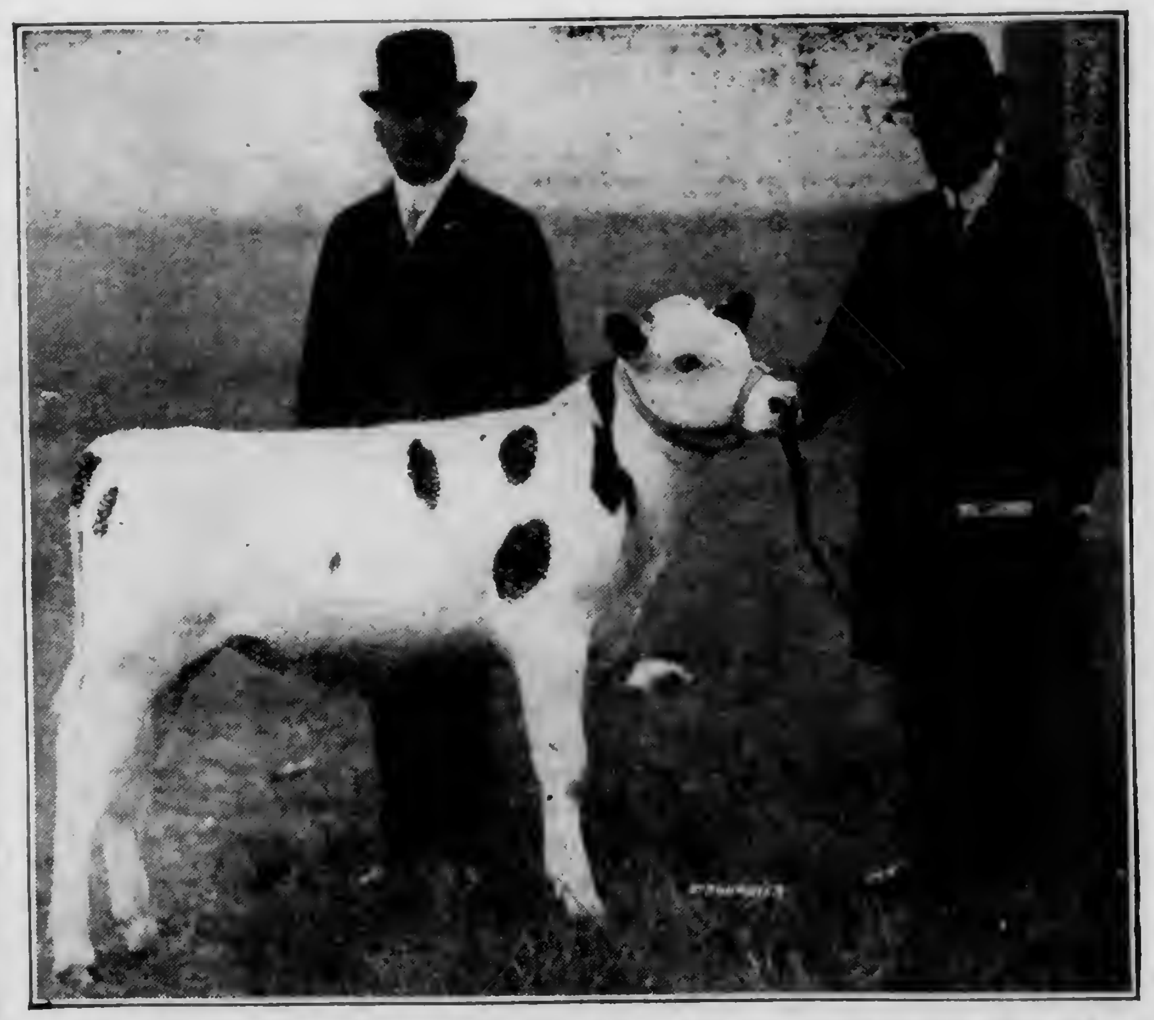
The dairy industry (with milk a highly nutritious food, selling at the farm for less money than bottled table water) is in jeopardy. Can it be possible that the good housewife resents paying a fair price? It may be stated with no room for contradiction that the new price asked (7 cents at the farm) is only just and in keeping with the increased cost of production. And taking into consideration the upward, sweeping prices on all food stuffs, the relative value of milk in comparison would place the selling price at something like 20 cents per quart.

Individual records as to production, cow testing associations, the weighing of each allotment of feed, etc., in other words a debit and credit account opened with each animal, has in recent years brought to light the startling disclosure that the average milk cow never paid her board. In spite of this fact, the dairy industry has assumed vast proportions in the United States, embracing as it does a wide range of labor and requiring a great diversity of skill and intelligence to insure its most successful advancement.

Nearly every one will agree that the purchasing power of the country has been greatly increased, that the people are able to buy more and better goods, and instead of buying a poorer quality at the same price, the demand is running constantly in the direction of better goods even at higher prices. Under existing circumstances, every business man is striving to take advantage of the upward trend of the market, so as to meet the extra demands in both the up-keep of his business and at home. The farmer finds himself in a similar position. His crops of $1.50-corn and $3-wheat marketed, will care for the increased costs and net a comfortable profit, whereas the milk dealers' inability to readjust milk prices promptly to meet conditions has forced the farmer to make his demands, when heretofore he has always been found accepting the prices offered.

The organization of the dairymen has brought forth some criticism and any system of forcing prices is to be deplored in most cases. But here we find an explanation justifiable in every sense of the word. Stepping into the cow stables we find on the average dairy farm a herd brought to its present high state of efficiency after many years of selective buying together with rearing of calves from the good cows. The herd represents a life's work in some instances. Who will dare say that a man has not the right to protect such a business when by so doing he is working for the best interests of both his country and mankind?

No one can compute the deplorable results that would follow the partial suspension of this important branch of agriculture. For example, sighting an extreme case, take Poland with its millions of population in normal times. It is said that Poland has no children under the age of seven years, due in large measure to the scarcity if not total lack of the product of the dairy cow. Thoughtful men appreciate the gravity of this problem, and just so long as the meat platter outbids the milk bottle, the milk cow will continue toward the slaughter house, leaving the future to take care of itself.—Philip Price, Chester Co., Pa.


King Ormsby Jane Rag Apple, the above five-months-old calf, sold at auction in recent Worcester sale for $53,200. He was consigned to sale by Oliver Cabana, of New York, shown back of calf, and purchased by D. W. Field, of Massachusetts, shown holding the record-breaker.

PASTURING STOCK ON SWEET CLOVER

When sweet clover has been seeded two years in succession on separate fields, the fields sown the first year may be pastured until the middle of June, when the stock should be turned on the spring seeding. When handled in this manner, excellent pasturage is provided thruout the summer and a hay or seed crop may be harvested from the field seeded the previous season.

Some of the best pastures in Iowa consist of a mixture of Kentucky bluegrass, timothy and sweet clover. On one large farm, stock is pastured on meadows containing this mixture from the first part of April to the middle of June. From this time until the first part of September the stock is kept on one-half to two-thirds the total pasturage acreage. The remainder of the pasture land is permitted to mature a seed crop. Usually from 2 to 4 bushels per acre of recleaned seed is obtained from this portion of the pasture. After the seed crop is harvested, the stock again is turned on to this acreage where they feed on the first grasses and first-year sweet clover plants until cold weather.

It is essential that sufficient stock be kept on the pastures to keep the plants eaten rather closely, so that at all times there will be an abundance of fresh shoots. Grazing induces the plants to send out many young shoots close to the ground, so that when the plants are permitted to mature seed a much larger number of stalks are formed than would be the case if the first crop were cut for hay. Excellent stands of sweet clover will produce an abundance of pasturage for 2 to 3 mature animals per acre, from early spring to the middle of June. Cattle which are pastured on sweet clover alone crave dry food. Straw or hay should be present in the meadow at all times. — Dept. Letter.

INTER-STATE ASSOCIATION ACTIVITIES

Philadelphia Office Opened

The Inter-State Milk Producers' Association has opened a city office in the Reed Building, 1213 Filbert St., Philadelphia. The office will be open from 9 A. M. to 4.30 P. M., on all week days except Saturday, when it will close at noon. Mr. Willits, president, and Mr. Balderston, secretary, will be at the office a part of each day. Appointments can be made with either by telephone or letter; by phone call Filbert 5427. Other members of the Executive Committee will keep in touch with the office and will meet there as work requires. It is desired that all claims of any kind in regard to price, test, weight, transportation charges, etc., will be sent promptly to the new headquarters for handling by the Executive Committee.

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The increase in price on July 1 has developed a number of new details that will be given attention as soon as possible. Shippers in outlying districts, shippers some distance from shipping stations and others not in position to receive full benefits of new price adjustment at once will receive attention as quickly as details can be handled.

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The Inter-State Association was represented at the Washington hearing of the National Dairy Council by President Willits, Secretary Balderston, Prof. H. H. Howard, of Delaware, M. T. Philips and Dr. Clyde L. King.

—

It is estimated that milk consumption in Philadelphia decreased temporarily 10 percent due to the July 1 increase in price. An interesting feature reflecting the value of an educational campaign is revealed by the fact that the decrease was less than 10 percent where consumers had been following newspaper discussions of the milk situation and ran as high as 25 percent in sections of the city where English papers are not read. The Philadelphia papers have given valuable service thru free and unbiased discussions of existing dairy conditions. It is noteworthy, also, that shippers to the Philadelphia market are getting a larger proportion of the retail price than in any other large eastern market.

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Selling milk on butter fat test appears certain to develop in the future. The price schedule based on butter fat content is causing dealers to give more attention to this quality. More milk is being sold on test now than ever before, and the practice is certain to grow.

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Organization work is progressing in Juniata, Mifflin and Blair counties in Pennsylvania. Active organization work is planned thruout Delaware, the Peninsula counties and the Eastern Shore of Maryland early after harvests are over. Any local or Pomona granges or other farmers' organizations desiring speakers for summer gatherings may secure them without expense to the local committee by addressing the Inter-State Association at its Philadelphia headquarters.

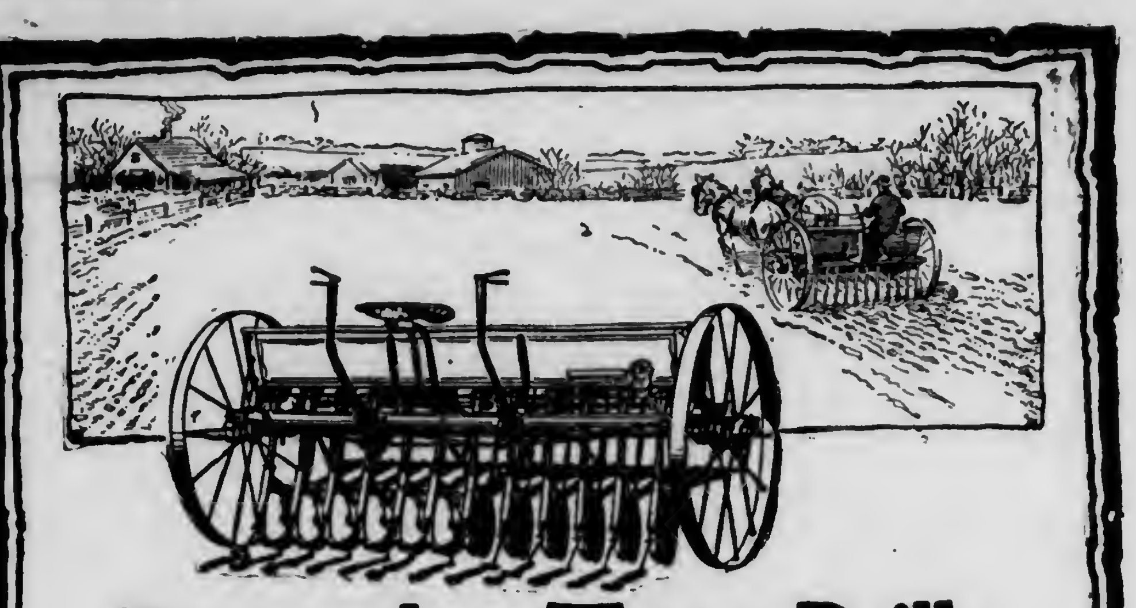
DAIRY INDUSTRY AND THE WAR

The National Dairy Council has called a mass meeting of all dairy interests for October 22, at the National Dairy Show to be held at Columbus, O. This mass meeting will discuss questions relating to all branches of the dairy industry. Cattle breeders, milk producers, milk distributors, creamery operators, ice cream and cheese manufacturers, state, local and national associations will all be heard in discussion of special problems of the dairy industry during the war.

AVERAGE COWS DO NOT PAY

Estimates on the value of the average dairy cow's product in New York State, made by the college of agriculture, give a yearly total of $66.09. Costs of maintaining her are estimated at $61.85, not including the cost of labor. The difference, amounting to only $4.25 per cow, would give to the man who cared for 20 cows a yearly wage of $85, which is less than the lowest wage paid to ordinary farm labor. Scrub cows are largely responsible, it is said, for this poor showing in New York, and they must be weeded out if dairy herds are to be profitable to the farmer. Herds may be improved by "grading up" with a purebred bull or by the purchase of purebred animals. Grade cows may be obtained that will give high yields tho their offspring are not always as valuable in the market as those from purebred animals.

The use of milk scales and the Babcock test are indispensable to success in dairying. These should be supplemented by knowledge of the ideal shape for dairy cows, and certain physical characteristics that are a guide to the capacity of the cow to produce milk. A new publication, "The Dairy Herd", just off the press gives information concerning dairy cows and herd management. It contains eleven photographic reproductions, a score card for dairy cattle, and a sample pedigree chart showing the results of grading up a herd of cows. A copy of this publication, number 116, will be sent without charge to any resident of New York State who requests it, from the college of agriculture, Ithaca, N. Y.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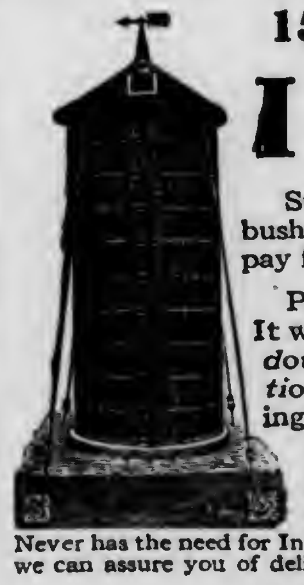
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Horticulture

ORCHARD PESTS NUMEROUS THIS YEAR

From present appearances, the season of 1917 bids fair to go down in horticultural history as one of the most favorable seasons in many years along two lines. One of these is vegetative growth and the other is pests.

Limiting our present consideration to two principal fruits, we would merely cite the unusual prevalence of leaf curl, curculio and early attacks of brown rot, on the peach, and of aphis, apple scab and fire blight, on the apple. There have been few seasons in recent years when the aphis and scab have been so hard to control on the apple, and the vigorous twig growth has also made the fire blight especially prevalent and hard to control in many localities.

On the peach the chief work of the brown rot up to the present time has manifested itself in an unusually large destruction of the blossoms and many of the twigs by the so-called blasting effect. It has also gone ahead and girdled many twigs and just now in many orchards it will be found developing numerous characteristic grayish spore tufts, especially on the old fruit stems which were destroyed by this fungus last year. Wherever these collections of spore tufts are becoming especially numerous, great care will be needed to protect the ripening fruit against serious additional loss from this disease.

In most cases there is only time for a single application and this should be either the regular self-boiled lime-sulphur, 8-8-50, or possibly the clear lime-sulphur solution diluted to a density of 1.003, which is obtained by diluting the best of our commercial solutions with water, at the rate of 1 to 100, or by diluting the average home-made materials at the rate of 1 to 75 or 80. The latter material is much more convenient and economical and does not stain the fruit, and hence can be applied closer to the time of ripening and thus should give greater protection. The only objection is the slightly increased danger of spray injury but this danger is usually not great if the material is used without the addition of any kind of arsenical, which of course is undesirable as late as this, and also is no longer needed.

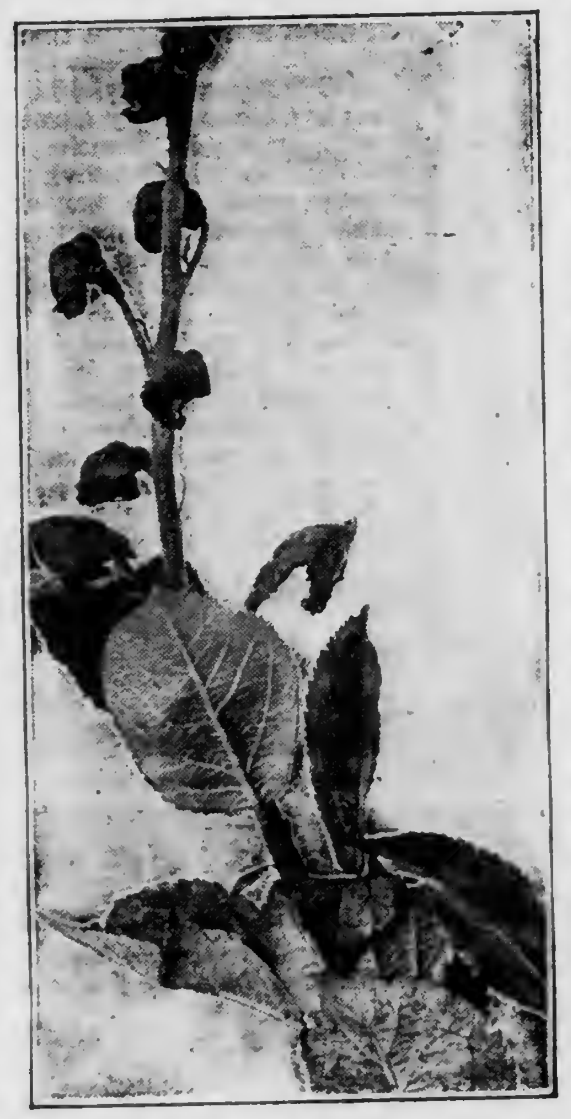
In addition to the ordinary pests already named, another pest which is also common but usually little noticed is beginning to attract attention in some localities, as indicated by the following letter from Berks County:

"I am sending under separate cover some apple twigs taken from five-year-old trees. The leaves on most of this year's growth are curled as those of the sample. I can not find many aphis so am at a loss to know the cause of the leaf curl. The trees have never been sprayed and in all other respects are healthy and making good growth."

This injury is due to the apple leaf hopper, Empoasca mali, and the general appearance of the twigs referred to is shown in the accompanying illustration.

There are usually about four generations of this insect each season but it is only the later broods, those occurring in the latter part of June, July and August, on the younger leaves, which become numerous enough to cause any important damage. When they occur in considerable numbers, their effect is to dwarf the leaves and curl them considerably, tho the curling is not as pronounced as in the case of many of the aphids. Their work is also readily distinguished from that of the aphis by the fact that they occur relatively late and the contrast between the large, healthy leaves at the base of the twig and the infested leaves nearer the tip is often very sharp.

The only effective time for controlling them is during their nymphal stages, as the adults fly so readily and are so well protected by their wings that it is difficult to hit and kill them with any applications of reasonable strength. The nymphs are usually most numerous in the latter part of June, July and August. They can be killed with a soap solution made up at the rate of 1 pound of white laundry soap or its equivalent, in 6 or 8 gallons of water. They can also be killed with a 6 or 8 percent kerosene emulsion, or with 40 percent nicotine sulphate solution diluted at the rate of ½ pint to 50 gallons of water. In the latter case, it is usually well to add some soap, at the rate of about 2 pounds to 50 gallons. On nursery stock where this pest is often especially harmful, or on the smaller orchard trees, it is often possible to kill the nymphs on infested twigs by dipping them in any of these preparations.



SHOWING WORK OF APPLE LEAF HOPPER.

Other pests that can still be guarded against at this time are the late scab infections and codling moth. Applications in the last week of July or first of August should be satisfactory for this purpose and the materials needed are lime-sulphur at the rate of about 1½ gallons of the best commercial material, or about 2 gallons of the average home-made solution in 50 gallons of spray, and lead arsenate, at the rate of 1½ pounds of the powder or 3 pounds of the paste in 50 gallons.—J. P. S.

FACTS ABOUT THINNING

The West Virginia Experiment Station, Morgantown, W. Va., has been busy on a thinning test for the past five years, the test covering 187 trees of varying ages, variety, and growing under different conditions. The main conclusions, as published in Bulletin 162, are as follows, and are very interesting to the practical fruit grower:

Where vigorous trees are bearing a light crop on fertile soil, thinning may not pay. Where a medium to heavy crop is being borne by the trees, thinning is a very profitable practice.

Wherever the trees had a good crop, thinning increased the size of the fruit and much fruit was made salable that would not have been so had the trees been unthinned. The color on heavily loaded trees was much better, brighter and more uniform where thinned, and the fruit being larger and brighter commanded a better price per barrel and a much better price in boxing and fancy trade.

Net returns were always greater from the thinned trees when all were bearing good crops. One year in one plot of twelve trees, the thinned returned twice as much as the unthinned, and another year showed at least 75 percent greater net returns per thinned tree.

With young trees, thinning helps to maintain the vigor and shape. Limbs are not so likely to break either in young or old trees. No final conclusions were reached as to the effect of thinning in forcing the biennial-bearing trees into annual bearing, but results for three years indicated that it has no such effect.

Thin winter varieties just after the June drop. With summer varieties it pays to delay thinning until some of the fruit is large enough to use, and then continue thinning at intervals. In most experiments a space of six or seven inches was found to be desirable, but in some old trees, bearing good crops, nine to ten inches gave best results. Unless the variety thinned has very tender fruit spurs it is just as well to thin by hand as by clippers and takes less time.

Low-headed trees bearing about five barrels can ordinarily be thinned by a man in about one and one-half hours. The cost is trifling when compared with the net result. It is shown, too, that only a small part of the cost of thinning should be charged against the thinned tree, as the fruit would have to be removed in any case at picking time and much more time is consumed in sorting when there is a larger amount of culls, as is the case when thinning is not practiced.

GARDEN NOTES FROM THE EASTERN SHORE

Down here in the southeastern corner of Maryland we have had a very peculiar season. The spring was cold and late, and hence all garden crops are later than usual. But since the weather warmed up we have had most remarkably favorable weather. No drouth has checked anything and hence the growth of all the vegetable crops has been as fine as could be hoped for.

But in some crops there have been peculiar conditions. My early tomatoes came in two weeks later than usual, and the peculiarity has been that Earliana and Bonny Best tomatoes of exactly the same age and set at same time gave the first ripe tomatoes on same day. Earliana is usually a week or more ahead of Bonny Best. Both varieties grew with wonderful rapidity, and now, the middle of July, we are getting about equal quantities from each.

Of Early Wakefield cabbage it is always hard to get a perfectly pure and typical lot. This season I have been fortunate in getting Wakefields of the pure typical, pointed heads—only one round head seen in my whole plot. The fact is that with the best breeding of the seed stock the Wakefield will often vary in shape, and the best seed breeders will find these varieties in any stock while the careless breeders will have the seed produce all sorts of heads.

I planted my egg plants at the usual distance apart, but the favorable season has made such a tremendous growth that the plants are badly crowded. The Black Beauty came in ahead of the New York as usual, but I like to have some of both. The Black Beauty will make more fruit and earlier, but they never grow to the size for show purposes that the New York does.

We usually get our first roasting ears about the fourth of July. This year the first came on the table on the 16th, and this is about the average lateness of most products. I am growing the Copenhagen Market cabbage for the late summer and early fall, from seed sown on the open border in May. I prefer it for this use to trying to get it early, as it will come in just about the time the earlier cabbages are bursting. Cabbages for winter have not yet been transplanted. These we wish to head not earlier than middle of November or later, as earlier heading will not keep so well.

After a number of years' trial I have concluded that the St. Regis raspberry does not give fruit enough to pay for the space it occupies, and I shall grub the plants out and return to the Cuthbert as the best red raspberry. In fact we can get far more fruit from the black caps than from any red raspberry, and to my taste the black ones are as good or better than the red ones.

I tolerate the big thorny Nanticoke blackberry, tho its canes are much in the way, because of the fine quality of the fruit and the fact that it does not ripen until August and, with the Atlantic dewberry, often runs into September. The Nanticoke is worthless for shipping as it is too soft, but for home use and local market it is fine. But coming in along with the peaches and plums no blackberry can be profitable for market. People at that time are buying tree fruits and will not bother with blackberries or strawberries. But in the home garden it is pleasant to have the everbearing strawberries and the late blackberries.

Following my early tomatoes I have for the late crop Greater Baltimore and Globe. Seed of these were sown outdoors in April and the plants are now just starting to bloom (July 17). Then I have plants from seed sown in late May, which were transplanted July 5. These are intended to come in with their best fruit just before frost and to have plenty of well-grown green tomatoes when frost threatens. These I gather and wrap in paper and store in a cool, dry cellar, and bring out a few at a time for ripening in a warm room. In this way I have had sliced tomatoes until January.—W. F. Massey, Maryland.

SALT FOR CABBAGE WORMS

Ordinary fine table salt is an effective remedy for cabbage worms. It may be applied with a salt shaker when the plants are moist from dew or rain. Sprinkle it directly upon the worms when possible.

CARE OF ASPARAGUS BEDS

"A Dollar a Plant from Asparagus" was the subject of an address by J. B. Norton, of Washington, D. C., before a convention of vegetable growers. He gave the following essentials for growing asparagus successfully: Land should be well drained, level, sandy loam that does not dry out badly in summer, and near markets. Choose plants from stock that has a good record as a producer, regardless of variety, and selected from a nearby field if possible. "I never plant two-year-old roots," says Mr. Norton, "and do not believe in starting the seed in its permanent place. Select one-year roots for planting in the field."

After careful selection of roots, plant in rows four feet apart, with plants 15 to 18 inches apart in the row, and cover three inches deep at first. The trenches are made deep enough to leave the crown eight to ten inches below the level. Use no intercropping system, but plant a cover crop the first two winters. With rust-resisting asparagus, the tops are left on in the fall and disked in the next spring, thus saving labor and plant food. Fertilize with manure in late winter, ten tons or more to the acre.

Mr. Norton said that refrigeration of fresh asparagus is essential from the standpoint of the consumer.

A. E. Wilkinson, of the State College of Agriculture, in an address on "Late Cabbage", told of several field tests conducted by farmers, working under his direction, which proved conclusively that acid phosphate gives largely increased yields over both nitrogen and potash fertilizers. Fifteen tons of manure and 500 pounds of acid phosphate gave a yield of 42,745 pounds of cabbage to the acre on one farm. He believes that farmers can grow and improve their own seed, and advised covering the bed with cheesecloth to keep away the maggots.

Timely Fruit Notes

By Dr. J. P. STEWART

Queries on Peach Growing

"Considering the almost impossibility to get potash and nitrate, what fertilizer would you advise to put on a peach orchard—one that I could get already mixed? What do you think of ground bone and also basic lime?

"Would the time of pruning an orchard make any difference in the yield of fruit?

"If I should put the crop of fruit out for some one else to harvest, what part of the crop should they receive; that is, to do the gathering, marketing, selling, etc? I do not mean attending to it before hand, only attending to the crop. Do you think about one-third of the crop would be right?"—M. W. H., Philadelphia Co., Pa.

Nitrate of soda should not be especially difficult to secure this year altho, of course, the potash is. For best results I would recommend an application of about 2 pounds of nitrate of soda and 4 or 5 pounds of acid phosphate to the tree on your peach trees if they are in full bearing. If convenient to do so, it would probably be best to make one-half of this application ahead of the bloom, preferably just about the time the buds are starting, and then make the other half after the fruit is set and vary the later application somewhat in proportion to the size of the crop set on the tree. This mixture can be very readily made at home in case you are unable to have the mixing done at the factory.

Acid phosphate has proved somewhat better than ground bone as a fertilizer for fruits in the cases where a direct comparison has been made. It is also usually cheaper. I do not know what is meant by "basic lime", as all lime is basic. Lime applications have been of no direct benefit in the fertilization of fruit, so far as our experiments and observations have gone. It may be of value indirectly, however, in stimulating the growth of leguminous cover crops in case they are used.

The time of pruning is not likely to make any important difference in the yield of fruit. The latter is more closely correlated with the severity of the pruning than with the time at which it is done.

In regard to the proper compensation for picking, packing and marketing the crop, would say that this would depend somewhat on the manner in which this work is done. In general, however, I would think that 25 to 30 percent of the gross returns should be ample to cover this part of the work.

Annual Bearing of Apple Trees

"Will you please send me a bulletin on annual bearing of apple trees? Is there not a theory that some of the blossoms from each spur must be removed every spring, in order to have the bearing annual and not biennial? Does this apply to other fruits as well?"—A. N., Philadelphia Co., Pa.

It is not always possible to secure annual bearing in apple trees by any method but we have accomplished it in many cases by maintaining the following three conditions: First, plenty of plant food; second, thinning the fruit so as to prevent a crop of more than 600 bushels per acre, or thereabouts, in any given year; and third, proper moisture conservation by means of mulching or tillage in such a way as to avoid undue disturbance of the root systems. It is neither necessary nor would it be of any value to remove blossoms, as the large majority of them do not set fruit anyhow as a general thing. The biennial bearing habit applies more particularly to apples than to most other fruit. The same general procedure is likely to maintain yields of satisfactory steadiness in other fruits as well as apples.

SNAILS ON VEGETABLES

During the damp, moist days of August, one pest which bothers gardeners considerably is in evidence: I refer to the snail. Lettuce which is about ready to harvest, spreading out over the ground, holding moisture under the head, right close to the leaves offers a fine location for snails and, as a general thing, you will find them there.

Early celery which has been blanched with soil and which therefore contains moisture offers another home for the snail and they are found there. Many vegetables are attacked by snails and offer a congenial residence for this pest. If you would drive the snails from under the lettuce and from other vegetables which cover the ground and offer a similar hiding place, I would urge the cultivation or the loosening of the soil, aiding as far as possible in drying out the soil. In a small way, applications of hydrated or burnt lime and salt would aid in controlling this pest if the materials are located under or around the plants.

For the control of snails on celery, recommendations would be against banking the celery with soil. The use of paper or boards does not offer as congenial a place and therefore fewer snails are generally found. Snails on many vegetables can only be controlled by applications of finely burnt lime or by salt. These materials must be thrown against the bodies of the snail, necessitating rising very early in the morning to do this work, and the material must be placed in such a way that the snail crawls thru it, thus burning its body. Occasional results have been obtained by taking freshly cut vegetables and sprinkling same with a deadly poison and a little molasses and placing this material in the garden at nightfall. In some cases the snails seem to prefer this material, and consuming the same, they are controlled somewhat.

Sanitary conditions in the garden should be watched carefully so that hiding places are not available. Rotation of crops and fall plowing are also of value.—A. E. Wilkinson.

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DON'T NEGLECT THE HAY CROP

Almost every one remembers the prophesies made a few years ago, when the sales of automobiles began to increase by leaps and bounds, that it foreshadowed the disruption of the hay trade as well as the horse-raising industry. But the prophets proved to be false prophets. The record of last year's hay crop shows it to have been the largest in history by 4,000,000 tons, having reached the enormous total of 1,090,000,000 tons. Altho the price to farmers was not so high as in some recent years, yet the quotations of good hay—both mixed and pure—were such as to make a good return upon cost of production.

The reason for the good demand, for it is practically cleaned up, lies in the fact that hay was used more largely than usual because of the high price of grain. Many farmers fed more hay than usual because of this fact, and many were surprised at the good results. It will continue to pay to take good care of the hay crop and make it one of more intensive fertilization and better harvesting methods.

* * *

BURDENS IN THE GUISE OF HELPS

It seems that all that is necessary to get any kind of a fool proposition thru and fasten the cost upon the people is to declare that it is in the interest of patriotism, or that it is designed to solve the "food problem". Nice fat jobs are being provided for self-seekers without number, and the public will learn, as it should have learned long ago, that it is a mighty sight easier to create a public expense than it is to dispense with one after it is established. In spite of the warnings as to need for economy, and the demands for efficiency, the prodigal waste of public funds goes on and the savings of the common people are squandered in the maintenance of hundreds of public officials who have neither the ability nor the opportunity of saving for the people more than a fraction of their cost. We make no specific mention of examples at this time, but we have called attention to them while in process of creation, yet the public sat supinely by—often acquiescing by a half-hearted and often misunderstood resolution—and the things are done. May we paraphrase an ancient expression: Oh, Liberty, Economy, Efficiency; how many crimes are committed in your names!

* * *

THE COUNTY FAIR

On another page of this issue, "Fair Goer" gives a very frank description of the modern county fair. It will be evident to anyone familiar with these institutions that he knows what he is talking about. The fair, developed originally as a wholesome educational and recreational institution, has degenerated to a cheap, catch penny carnival. But what is going to be done about it? If the fair managers are making money with the kind of exhibitions they are now giving, there will be no change. Continued patronage indicates public approval, and it is human nature and financial sense to give the people what they want badly enough to pay their money to see. We refuse to believe that country people want the kind of amusements and entertainments that would not be permitted run in any well-regulated city. We do not believe that country people fully sanction an institution that caters almost exclusively to the "careless crowd". We do not believe that farmers approve of a fair that slights its legitimate premium lists to provide so-called amusements. Yet that is what the fairs are doing. How long can they hang on? Just so long as they continue to make money and so long as the farmers of the county permit that kind of a fair to pose as an agricultural exhibition.

* * *

FIDDLING WHILE ROME BURNS

The world's supreme example of callous indifference and selfish indulgence is found in the story of the Emperor of Rome sitting by fiddling unconcernedly while the imperial city of the world burns. That's all we have to say about Nero.

Down in the city of Washington we have a group of men, sent there as the representatives of the people, who are fiddling away time and opportunity with petty partisan, political scheming while disaster threatens because of the world war. In spite of plain duties and the need for united, patriotic spirit and action, partisan spirit, sectionalism and the influence of special interests threaten, if they do not defeat, the successful carrying out of important measures. It seems that some men think more about personal or party prestage than they do of country.

Some weeks ago the House passed a bill called the food control bill. By this it was intended to regulate about everything except the sun, moon and stars. Since then the Senate has been haggling over it and has eliminated about everything from control except the above named objects, and food. Special interests, including liquor, have had enough influence to convince the Senate that the regulation and control of commerce and manufacturing should be left free in this bill from restraint or meddling by the government. It had the grace, however, to insert an amendment to the food control bill guaranteeing a minimum price to the farmer of $2.00 per bushel. This price applies to No. 1 Northern, hard wheat. Other grades and kinds are in proportion. This price is no better for farmers than $1 was three years ago. Some newspapers wailed because of this action and charged that special privilege was being granted farmers. The fact is, farmers have said little one way or the other, but special privileges were apparent in the effort of other interests to squirm out of any kind of government control. And most of them succeeded. Agriculture has asked less and received less consideration at the hands of the Senate than any other business, including the liquor trade.

* * *

FARM LOAN LAW SUCCESSFUL

In spite of the prophesies made by most city papers and some farm papers that the Federal Farm Loan Law would fail because farmers would not make use of it, the figures show these papers to be false prophets. In all probability a wish was father to the thought and that the papers opposing it were merely reflecting the desire of men and institutions with money to lend to continue lending to farmers under the old system. Up to July 15, 432 loan associations had been chartered whose loans aggregated $20,699,337. The Federal Board is approving about $800,000 daily, and there are applications on hands for $100,000,000 of loans. The rate is five percent and the average loan is $2,250. The loan associations so far established have an average membership of 18 members.

While there are some improvements in the law needed, they will no doubt be made as time goes on. One of these is a provision by which beginners may receive financial help in buying farms. This is is a vital matter to the future of the farming industry. The present law does well in aiding established farmers to make improvements, extend their operations, pay debts, etc., but there are lots of ambitious young men without the initial capital or financial backing who would make successful farmers if they could get started. It is this class that the nation needs to encourage to stay in the field of agriculture.

We have received a great many letters from farmers in the east asking what steps to take in order to secure a loan. It is evident that those who are up in financial matters are not lending much encouragement to this move. The first thing necessary is to form a local association of borrowers, and apply for a charter. Those interested should write to the Federal Farm Loan Board, Baltimore, Md., for instructions as to forming an organization and other matters in connection with it.

* * *

THE ENROLLMENT OF HOUSEWIVES

In these days when every class and every individual is asked to enroll for some purpose, it is not surprising that the national food director should ask housewives to enroll as food savers and conservers. The waste of food in American households has long been a matter of comment by foreign visitors, and the national agitation may be productive of good, especially if the habit of exercising care in this direction shall become a fixed custom. Of course, everyone has heard the old saying, "An extravagant wife can throw out of the window faster than the husband can bring in at the door," but it was usually thought to apply only to the common people. Nobody cared how much the rich people wasted because they could afford it. But the fact is, waste is criminal at any time and in any place, and all must share the loss.

There are some interesting and amusing things brought out by this campaign. For instance, an account was given in a daily paper of how a woman ruled her servants in the matter of extravagance and by holding the balance of power, eliminated waste. She did this in a family consisting of seven people and ten servants! Think of it. Many a farm woman will not be long in pointing out the greatest item of extravagance in that household. Ten people, most of them held out of useful, productive work to fetch and carry for seven others! Surely there is need of a campaign against extravagance, but the enrollment cards should mention more than economy in the use of food. **When we compare such cases—and there are thousands of them—with countless farm women who, with equal or larger families, have done the cooking, baking, washing, ironing, mending, nursing, and between times helped milk and tend the garden without the help of even one servant, we can see where it is necessary to spend time and energy in signing up the women in an economy campaign, and also where it is not.**

* * *

THE TEST OF A BUSINESS FARMER

The present time is one which will severely test the farmers' business ability. The markets are making great demands upon him. These demands he must try to meet with an unprecedented shortage and high cost of labor. The market, also, is offering record prices in many lines, especially for grain and live stock. This offers a temptation to sell off what he has without regard to his future needs. Pennsylvania Farmer has frequently urged against this tendency.

No market price is sufficiently high to make it good business for a farmer to sell off a well-developed dairy herd, a well-bred line of hogs, or a high-grade flock of chickens; yet some farmers have done this within the past year. Business conditions will settle back to normal some day and then these farmers will find themselves without stock and, what is more, that it will be impossible to buy it at prices they can afford to pay.

Another test is that of making repairs and needed improvements. Of course, there are some things like new constructions which may be deferred, but others, upon which saving and conserving depend, it is economy to make. For instance, it is good business to put a new roof on a building which wisdom says should be done; to build a silo which will add to the value of a corn crop by making a better and cheaper feed; to purchase that machine or implement which experience has shown to be a saver of time and labor. Such investments are evidence of good business sense, even tho they cost more now than formerly.

Such expenditures are economy because they save a greater outlay in future because of neglect, or, because they contribute to greater efficiency and production in these times of high prices of farm products.

Another test of a farmer is his knowledge of the markets. In these times when things seem topsy turvy it requires a broad knowledge of markets and general conditions so as to know when to hold and when to sell. All this will require close study and thought. In fact, there is more need for farmers to read now than ever before.

HARRISBURG NOTES

Agriculture Unchanged.—There will be no change in the form of administration in the State Department of Agriculture unless some of the members of the state commission resign, as has been rumored, or the governor makes some changes in personnel, which is unlikely. The governor has vetoed the bill providing for commission members to be paid and the items in the general appropriation bill relating to the department have gotten thru without much difficulty. The governor vetoed the bill providing for the salaried commission in a message which indicated that he resented the effort to take the administration of the department out of his hands.

Agricultural Appropriations. — The approvals and reductions in the list of appropriations for the department of agriculture include $25,000 cut for the paid commission; a reduction from $100,000 to $90,000 in the tree and orchard inspection; reduction from $10,000 to $6,000 in the apiary inspection item; reduction from $6,000 to $4,000 in the line inspection act and $7,000 cut off the item for agents of the dairy and food division and $10,000 cut off the State Live Stock Sanitary Board fund. The forestry department suffered some big cuts, notably $10,000 from the labor item; $70,000 from the purchase of forest reserves and $10,000 from the forest fire protection item. The net result, however, is that the department has something more than it had the last two years and that its work will not be hampered. Where agriculture lost thru the fighting in the legislature, the State Commission of Defense will make up, if it is essential, altho that body has turned down some schemes to make jobs under the guise of agricultural stimulation.

The Market Bureau.—The long uncertainty over the bill establishing the bureau of markets in the department of agriculture was ended a few days ago when the governor signed it. Secretary of Agriculture Patton, in whose department the bureau will be located, hailed the measure as of vast importance. It certainly has powers, which, if invoked, can make it a tremendous factor in agricultural affairs, but it remains to be seen whether it will collide with the federal laws which are in the making. While no announcement has been made, it is generally believed that E. B. Dorsett will be the head of the new bureau. It will have an appropriation of $25,000.

Claims Held Up.—Just what effect the row over the governor's reappointment of the men rejected by the Senate will have on disbursement of appropriations, no one can say. Secretary of Agriculture Patton has declined to waive any rights and he will not have his deputy sign pay rolls or anything else. The result may be that every payment to the Department of Agriculture may be held up until the courts pass upon the question of the governor's rights.

Roads and Rows.—People about the State Highway Department are too much stirred up over differences between the Governor and the highway commissioner over how the state shall ladle out the appropriation for road building to say when the townships are to get the money the state has long owed them. The governor and the highway chief have been more or less at opposites on whether the money for equal-share-of-cost road building should be apportioned equally or be used as needed. The discussion reached a point where the governor said that he wanted to see a statement Mr. Black had prepared and the department was placed under censorship, which will not last long. About all it has done has been to add one more to the string of absurd situations that have arisen on Capitol Hill this year.

No Change in Assessments.—Governor Brumbaugh has vetoed the bill providing for quadrennial assessments and declared for annual assessments. The veto points out that many changes in value go untaxed under the present system and declares that they would be worse under a four-year system.

Fear for Potatoes.—The bulletin of the Department of Agriculture expresses fear for the potatoes because of the lice. In many sections, fields have been damaged materially and hopes of a thirty-million-bushel yield are disappearing.

Too Many Roads.—Governor Brumbaugh is now said to be desirous of having his administration remembered for its encouragement of education and roads. Three years ago encouragement of agriculture was the slogan; then came human rights and now it is transportation and education. There have been many good things accomplished in this administration, but the output of words has been tremendous. Governor Brumbaugh will not be governor when the next legislature convenes. He has come out in a veto message declaring that the state has too many roads in its system and too many miles. His statement in connection with a bill to change roads shows that he does not consider that the state can support its 11,000 mile system without bonding the state as proposed in the amendment to be voted on next year.—Hamilton.

NEW JERSEY NOTES

Price Contrasts.—The first publication of figures on vegetable prices, resulting from the anti-food gouging campaign, has shown some startling differences between wholesale and retail prices. The information was gathered by the Department of Agriculture and will be followed by weekly reports which will be given to the public so that the blame for extortionate prices may be placed at the proper door. The first report showed that cabbage, for instance, was netting the farmers of Middlesex County $5 per hundred head on July 12 and 13, while in Monmouth, the county adjoining, the price averaged $2.50 a hundred for the same grade of product. The wholesale price was $7 a hundred in Newark; $5 per hundred in Asbury Park, Atlantic City, Elizabeth, Trenton and New York and $3.50 per hundred in Paterson. At the same time, the wholesale price in Philadelphia was $2.75. The retail price to consumers fluctuated as follows: Newark, at the rate of $13 per hundred; Paterson, $15; Atlantic City, $7 and Jersey City, $14. Wax beans were selling at wholesale in Paterson for an average of 9 cents per half-peck, while the retail price was 30 cents, a variation of 21 cents, while in Atlantic City the variation was only 2½ cents.

Prison Labor. — The Prison Labor Commission announces that this year it expects the total business to be done under the so-called "State-Use System" of employing prisoners and inmates to reach $50,000. During the entire fiscal year of 1916, there were approved for manufacture in the state institutions orders amounting to $25,580.75. For the first eight months of the present year, which began November 1 last, there have been approved orders totaling $24,299.84, or within a few hundred dollars of the entire business of last year.

State Veterinarian.—Announcement is made by the State Department of Agriculture that Dr. J. H. McNeil has been appointed chief of the Bureau of Animal Industry in the department at a salary of $4,000 a year. In making the appointment, the Department issued a statement saying it was the desire of the State Board to find a skilled veterinarian who had had broad experience in constructive work, as New Jersey contains some of the most noted herds of breeding animals in the United States.

Harvest Help.—Another call has been sent out for boys over 14 years of age, this time to help in the harvesting of crops. There is immediate need for 500. They are to be cared for in camps under proper management. Three of these camps are ready in Mercer and three in Monmouth County.—L.

NEW YORK NOTES

Weather Conditions Still Bad.—Still another week of extremely wet weather prevails. The few who have cut hay have tried in vain to cure it. In Montgomery County a heavy hail storm did much damage July 16. In Madison County the damage to bridges and highways is estimated at $35,000 to $50,000.

Meeting at Albany.—Representatives of twelve or more organizations from various parts of the state met in Albany July 16 to discuss food control legislation which is to be acted upon by the special session of the Legislature to be called July 31. Public hearings will be held at which suggestions for the proposed bill are invited so that the bill may be introduced the night the Legislature convenes. Senator E. R. Brown, Majority Leader of the Senate, is chairman of the joint committee. He announces that suggestions are desired on all phases of the food control question, a dozen special ones being named in his statement. Chief of these are the composition and organization of a commission to do this work, the fixing of minimum prices as a stimulus to production, provisions to control food trade manipulations, the powers to be given the commission to regulate the placing of food in cold storage and the seizing and distributing of products in excess of present necessities, or the taking over of warehouses and their contents, and the transportation and distribution of food products within the state. Let every farmer make the most of this opportunity to look after his rights by individual letters to the governor and to his representatives, and also see that whatever organizations he may belong to sends capable delegates to the capitol to actively present the farmers' cause.

Eggs in Storage.—On July 1 the holdings of eggs in the warehouses of Greater New York were 177,000 cases in excess of one year ago. Hot weather has caused a scarcity of fancy fresh gathered eggs.

Unexpected Census Developments.—Fifteen hundred names of British subjects residing in this state have been turned over to British recruiting officers, who are very glad to get them, their latest help in this country being the ten-year-old census, and the immigration bureau, and which are of very little value. These young men between 21 and 30 will be looked up with celerity.

New Creamery.—Rennelville, Oswego County, is erecting a $60,000 milk-evaporating plant, whereby producers will be independent of the milk shipping stations. This large evaporator, and other factories, and the large chocolate works in Oswego and Fulton will take care of the greater part of the milk of this section, in any emergencies that may arise. Farmers of the state generally expect trouble in September, when contract time will again bring milk affairs to a crisis.

From Farm to Consumer.—Several thousand dollars have been raised as an initial fund on the East Side of New York City to eliminate speculators. Grocers and merchants are to be organized into a zone system, each contributing to a weekly purchasing fund to buy produce direct from farmers, thru the state commissioner of markets. The food is to be distributed pro rata among merchants in the zone and sold to consumers at a price allowing a fair profit, but eliminating speculators' profits. If the plan is successful, it will be extended to other parts of the city.

Tractors for Farmers' Use. — The superintendent of Auburn State Employment Bureau and Chairman of the Mayors' and County Defense Committee of Cayuga County has arranged that, as soon as plowing for buckwheat is finished, at least three tractors will be used for drawing binders in the grain fields. The committee furnishes the tractor, binder and a man to run the tractor, but the farmer must ride the binder and furnish fuel for the engine. Considering the weather, the tractors are considered a success so far.—F.

FROM DEPARTMENT OF AGRICULTURE TO WAR DEFENSE BOARD

The War Defense Board of Pennsylvania has employed eight of the farm advisors of the Department of Agriculture whose work was wiped out by the elimination of the appropriation by the Legislature. These men will be employed for four months at $200 each a month and expenses.

The advisers employed are J. T. Campbell, of Hartstown; L. W. Lighty, of East Berlin; Franklin Menges, of York; J. Aldus Herr, of Lancaster; E. B. Dorsett, of Mansfield; W. T. Wittman, of Allentown; C. G. McLain, of Harrisburg, and S. W. Funk, of Boyertown.

The purpose of engaging the men is to stimulate agricultural production in 1918. The resolution adopted by the board, which was attended by the Governor, Lieutenant Governor McClain, State Treasurer Kephart and Auditor General Snyder, provided that $8,000, or as much as may be needed, be provided from the $2,000,000 war defense fund for this purpose. The advisors are to co-operate with the national government and the agencies authorized in this state to give the farmers the best practical and specific assistance in the problems of agriculture in Pennsylvania. The resolution also provides that they shall do such work as the Governor may require.

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FARM MEETING CALENDAR

Alcyon Park Grange Picnic, Pitman, N. J., August 8-10.

Society of American Florists, New York City, August 21-23.

Farmers' Field Day, N. J. Experiment Station, New Brunswick, N. J., September 6.

Solebury Farmers' Exhibit, Solebury, Pa., September 7-8.

New York State Fair, Syracuse, N. Y., September 10-15.

Dairy Cattle Congress, Waterloo, Ia., October 1-7.

Eastern States Exposition, Springfield, Mass., October 12-20.

National Dairy Show, Columbus, O., October 18-27.

Pacific National Dairy Show, Portland, Ore., Nov. 16-23.

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Married Man wanted on farm; to work with team and raise such crops as are usual to a dairy farm. Wife must be willing to board help. Position open immediately. Eugene B. Bennett, BENCHESTER FARM, P. O. Box 193, Easton, Pa.

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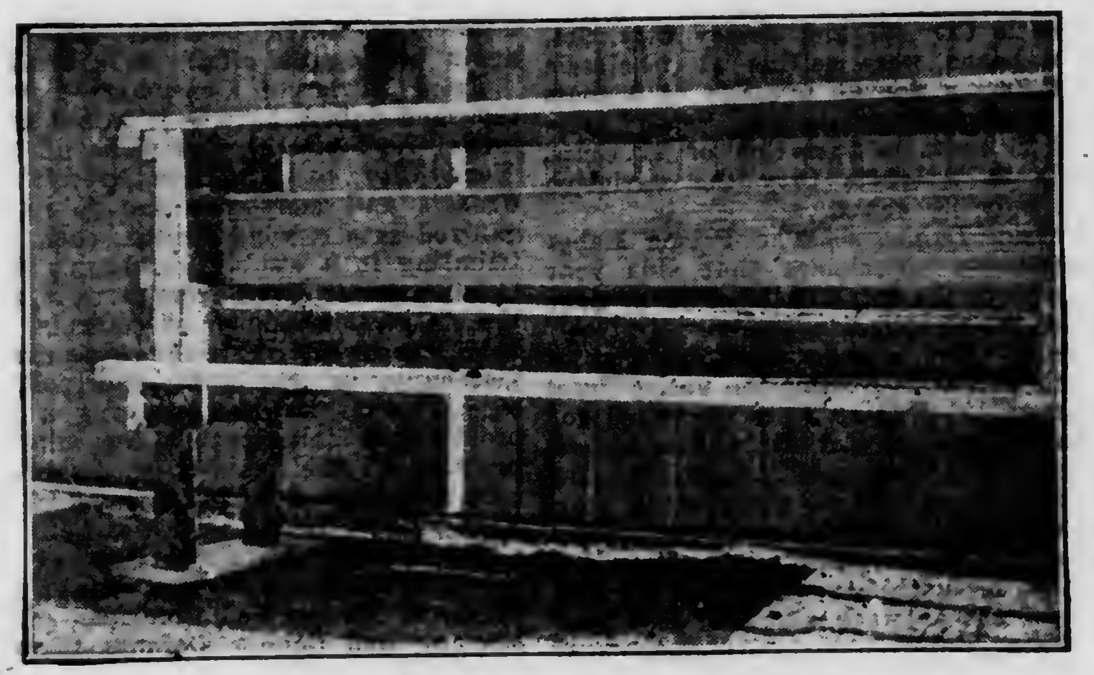
Making a Start with Poultry

A Discussion of the Beginner's Chances

Without any available statistics to prove the assertion, I believe it can be said with truth that over fifty percent of the people dwelling in the cities and towns of the country at some time had the notion of starting in the poultry business as a life pursuit, thinking that in it they will not only make a living but something more.

Many of these would-be poultrymen have never been able to carry out their ideas, but there are hundreds of others who have jumped into the business and in an exceedingly large majority of cases failed to even make expenses. Why do these people fail? Why have we during the past few years noticed so many idle poultry plants about the country? Is it because poultry raising is an absolute failure in every case? No! Such is not the case. The trouble is due to so many persons without any knowledge of poultry raising and without any acquaintance with farm conditions blundering into the business.

These persons do not realize that poultry raising is a highly specialized pursuit, requiring every bit as much knowledge and personal equipment as does the business of manufacturing, merchandising, etc. And the poultry business is even more exacting than any of these pursuits because even with a wide knowledge of poultry one never has complete control over matters, for in working with nature nothing is absolute.



V-Trough and Stand with cover. Notice board in middle to keep hens from passing thru

For convenience of discussion I will divide the would-be poultrymen into two classes—the city worker with a few hundred dollars and a desire to get away from indoor work, and the man with a lot of capital who believes that sufficient capital will accomplish anything.

Of the two classes, the former is by far the larger and perhaps deserves the greater attention. They are the men, office and factory workers, who, thru poor health or perhaps just the natural longing of man to live and work in the open as nature intended all of us to do, drop their positions and with a few hundred dollars and lots of courage make the leap into the poultry business. One or two years of harder work than they ever did in their lives and the heartbreaking experience of finding that one or two hundred hens won't make a living for a family and they are back in the city, financially broke and out of work.

Why did they fail? Because they had no acquaintance with the business and thought that "anyone could raise chickens"; they also expected too large a return for their investment. These same men would not in the least think of starting a factory without any acquaintance with the contemplated business, nor would they expect a few hundred dollars thus invested to yield an income large enough to support them after a year's time.

This is not written to discourage the city dweller from going to the country or from starting in the poultry business, but is intended to caution such persons and show them, if possible, how they might succeed and what they can expect success to be.

The first great mistake usually made is throwing up the position from which a living has been made. I say to the would-be poultryman, positively don't do that unless some sort of a steady income is had, not depending upon his labors.

From my observation of successful small poultry farms I have found that the majority of the owners have found it necessary to work at some business for the first two or three years while developing their plant to where it will make them a living. During these trying first years the majority of these successful poultrymen have worked in their evenings after coming from their employment and in their mornings before starting out, constructing their buildings and preparing things for the next day. During the day the home folks had to tend to the poultry with perhaps the assistance of a man now and again for heavy work. After about three years of this manner of conducting the poultry farm, the poultry enthusiast will have sufficient stock to make a living and also experience enough to know whether he likes the business and what in his case are the possibilities of making a living.

Another thing that should be remembered is that a living in the country is not all reckoned in money. The greater part of the family food supply should be raised on the place if the venture is to be made a success. Then, too, it is foolish to put ones' eggs all in one basket. The really successful small poultry farm is more often a combination of poultry, fruit and truck with the family cow and garden as a supplement.

To get down to the facts of the business, I do not believe a man can make a living from a smaller flock than 500 hens, and 1,000 would be better. With good management, an income of a dollar a head from each mature hen on the place is a very fair average, and one should not count on much more. It is true that some men have made much larger profits than a dollar a hen and have made a satisfactory income from less than 500 hens, but such cases are exceptional and generally due to unusual and temporary conditions.

One should not figure on selling stock for breeding purposes or eggs for hatching, but upon the market price for poultry products used as food. The hatching egg and breeding stock end of the business offers larger possibilities for profit than the food market and should be reckoned as a possibility for larger profit but not as a "sure thing" by any means. If the poultryman doesn't believe that he could make a financial success of the business by selling all his goods in the markets for food, then he should not enter the poultry game.

Large amounts of capital are by no means the advantage in starting in the poultry business that some people believe. In truth, experience has shown me that the little fellow who has to make a struggle of it has a greater chance to succeed than the man with plenty of capital. The struggling small poultryman owing to lack of capital has to go slow, with the result that he learns a great deal and does not make the costly mistakes that the man with much capital and no knowledge does. The result is that by the time the little fellow can afford to enlarge he has learned by hard experience what is likely to succeed and what is sure to bring disaster.

The only chance for the man with capital to succeed with the poultry business is to hire a really competent and experienced man to run the plant and abide by his judgment; but even then I believe the one-man plant has the advantage when it comes to the chances of making a financial success.—J. Raymond Kessler, Chester Co., Pa.

HOME PRESERVATION OF EGGS

During the summer months when a good supply of eggs is produced, the surplus eggs can be preserved for use next winter when the number of eggs produced will naturally decrease. There are two methods which appear to be about the most satisfactory, the Water Glass Method and the Limewater Method.

The Water Glass Method

Water glass can be purchased by the quart from druggists or poultry supply men. It is diluted in the proportion of one part of water glass, or sodium silicate as it is known to chemists, to nine parts of distilled water. Half fill the vessel with this solution and place the eggs in it, being careful not to crack them. There should be about two inches of water glass above the eggs. Cover the crock and place it in the coolest place available. Inspect the crock from time to time and replace with cold boiled water, any water that has evaporated. When eggs are to be used, remove them as desired, rinse in clean, cold water and use immediately.

Limewater Method

Limewater is slightly less expensive than water glass. A solution is made by slaking four pounds of fresh lime, diluting with four gallons of water and adding two pounds of salt. Allow the mixture to stand until the lime settles and the liquid is clear. The eggs should be placed in a clean earthenware jar or other suitable vessel and covered to a depth of two inches with the liquid. Remove the eggs as desired, rinse in clean, cold water, and use immediately. Never use cracked eggs in preserving by either method.

The farm with a good orchard adjoins the road to happiness, prosperity, and better living.

No one should be ashamed to put out a first-class fruit-for-sale sign. It will help establish business and many are always in want of perfect fruit.

Live Stock

SELF-FEEDERS FOR HOGS

Feeders Work Well in Pasturing

Self-feeding of fattening hogs is rapidly increasing because of the scarcity of farm labor, the high market prices of hogs, and the high prices of feeds. Self feeding experiments at the Kansas Experiment station have given interesting results. Ninety Duroc Jersey pigs were fattened for market. They were divided into 15 lots, three of which were hand-fed and the others self-fed—some on pasture and others in dry lots.

The pigs were started in the experiment with an average weight of 50 pounds and were fed to make an average gain of 150 pounds of pig for each lot. The self-fed pigs in the dry lots were ready for market earlier, required less labor, gave greater returns for feed consumed, and based upon the averages of the Kansas City market for the last five years would have sold for 25 cents more per hundredweight at the time they finished in the experiment.

Adding to the gain in market price, the saving in feed, which amounted to 99 cents a head, and the saving of labor which at the lowest estimate, when as many as a car load of hogs are fed, would amount to one hour a pig, there resulted a gain of approximately $1.65 a head. The average self-feeder will accommodate at least 20 head of pigs thru a feeding period similar to the one in this experiment. With the advantage of $1.65 a head, $33 may be credited to the self feeder above the net returns from 20 hand-fed pigs.

The self-fed pigs on alfalfa and rape pastures were ready for market only 1½ days earlier than those in the dry lots, but the pasture allowed in three months a saving of 67½ cents' worth of concentrates a pig. The pigs were pastured on alfalfa at the rate of 18 an acre, which gave a surplus of forage. This shows a return of $12.15 an acre for the alfalfa pasture. Two cuttings of hay had been removed before the feeding period began. Figured on a five months' pasturing season, there is a return of $20.25 an acre.

Based upon the saving of concentrates, the rape pasture gave a return of $16.20 for the three months' feeding period. Figuring for a four months' pasturing season, there is a return of $21.60 an acre.

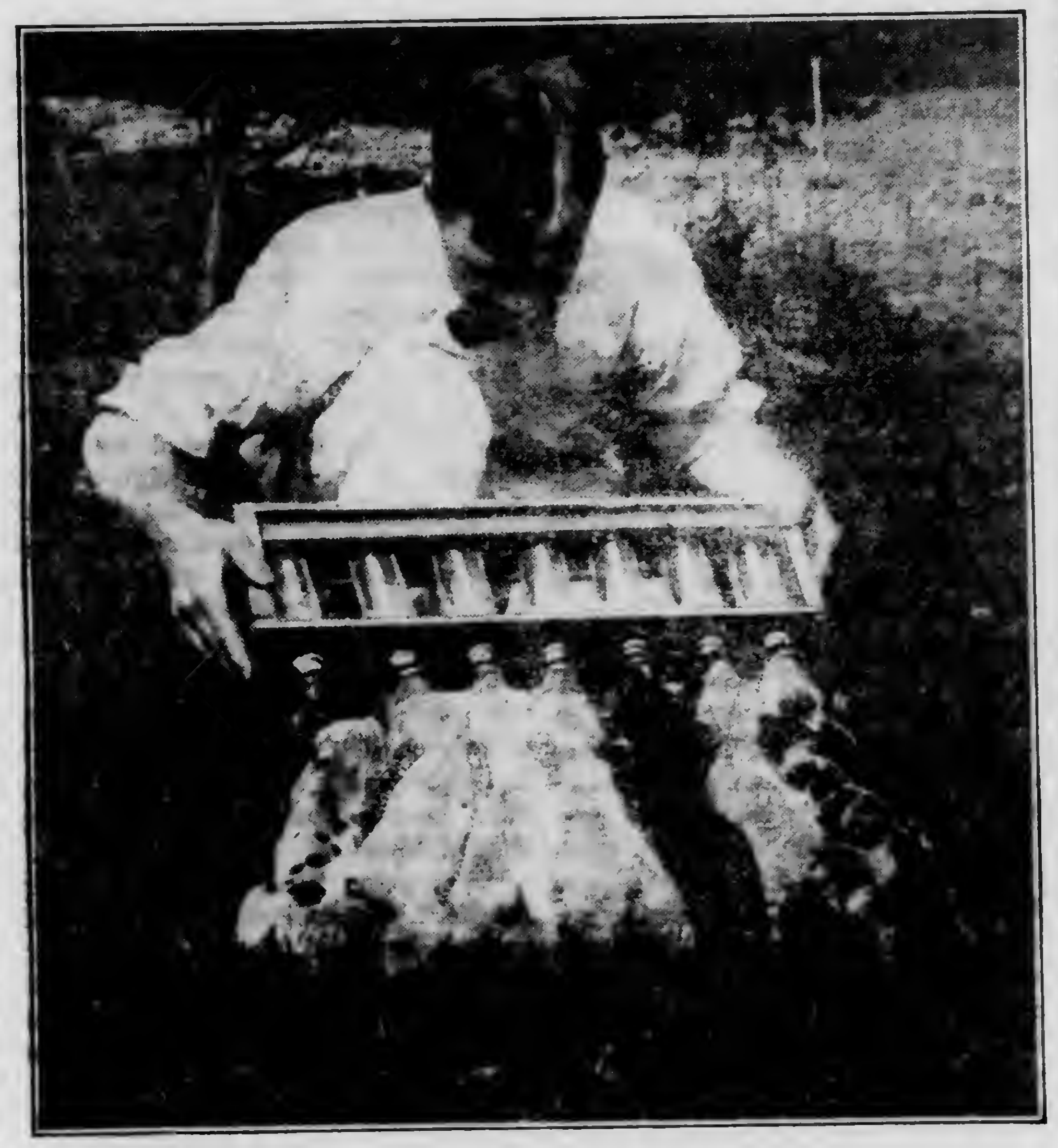
BLOAT IN CATTLE

Bloating in cattle is a common ailment which can be prevented or handled by almost any farmer. This disease is usually caused by animals feeding on green feed, such as clover, alfalfa, and green corn that ferment readily. The consumption of spoiled feeds such as potatoes and beets may cause it. Sudden changes in the feed, inflammation of the rumen, and a weak peristaltic movement of the paunch resulting from disease or insufficient nourishment are frequent causes.

The paunch or rumen occupies the left side of the abdominal cavity, hence the distension of the abdominal wall by the collecting of gas in the rumen occurs principally on the left side. The gas forms quickly and the distended wall is highly elastic. The animal stops eating and ruminating, the ears droop, and the back may become arched. In the more severe cases the walls of the abdomen are distended on both sides, the respiration is quickened, the pulse small and quick, the eyes are prominent, and the mucous membrane congested. These are the usual symptoms. Death results from asphyxia, caused by the distended paunch interfering with the movement of the lungs. The treatment is both preventative and medicinal.

This form of acute indigestion can be largely prevented by practicing preventative measures. All changes of feed should be gradual, especially if the ration fed is heavy, or the new ration consists largely of green, succulent feed. Cattle pasturing on green clover or alfalfa should be kept under close observation. It is not advisable to pasture cattle on clover or alfalfa which is wet with rain or dew.

Bloating usually can be quickly relieved by puncturing the wall of the paunch with the trocar and canula. The operation is simple and generally is not followed by unfavorable results. The instrument is plunged thru the walls of the flank on the left side, midway between the border of the last rib and the point of the haunch. The trocar is then withdrawn from the canula. After the gas has escaped thru the canula, the trocar is replaced and the instrument is removed. The instrument should be thoroly boiled after being used, and kept clean until again needed.



HAND FEEDING A BUNCH OF SUCKLING PIGS.

In bad cases it may be necessary to remove part of food thru an opening made in the side. This will require the services of a veterinarian. It is advisable to wash the skin with some good antiseptic before inserting the instrument. In bad cases it is sometimes well to give the cow a dose of Epsom or Glauber's salts dissolved in plenty of water. One should add two to four teaspoonfuls of charcoal. This will absorb the gases accumulating in the paunch.—Dr. J. H. Burt, in Kansas Circular.

FALL FEED OF SOWS

During August and September, 1915, the swine department of the New Jersey Agricultural Experiment Station pastured 18 head of brood sows on 3 acres of rape and soybeans. No grain whatever was allowed them save a small amount of green corn which was given during the latter part of September.

For brood sows carrying fall litters, enough grain should be fed to keep them gaining regularly, so that they will be in good flesh at farrowing time. This grain may be made up of 90 percent corn and 10 percent digester tankage. Sows to be bred in the fall should have their ration increased a few days prior to mating.

HAND RAISED PIGS

Last May I had a sow give birth to a litter of 10 pigs. Perhaps on account of insufficient exercise or some unknown cause, the sow was unwell and did not have any milk. For two other litters she had been a good milker and raised splendid litters, but this time there was no milk. Before I discovered what was wrong I had lost three of the litter, and I decided to raise the others by hand if possible. I made a rack to hold 7 eight-ounce nursing bottles, so that they could be securely clamped into position. After filling, nipples were attached, and all were fed at one time.

At first I used a brand of condensed milk, later using cow's milk diluted at about one-half with water. My first duty was to teach the little half-starved fellows to drink from individual bottles. This was little trouble, and as soon as each one knew what he was to do, I tried my rack. Each pig came up to a bottle and took his allowance and fought for more. It worked like a charm and had an advantage over Nature's way in that I saw that each pig got what was coming to him; for as soon as one was thru with his share I put him away and any that were slower could finish in peace. I found that the device gave me absolute control over the feed of each pig, giving uniform results.

At 10 days old I taught them to drink from a trough and succeeded in raising six out of the seven. The advantage of the rack was that one could feed 7 as easily as 1 or 2 with only the extra bottles to look after. The picture shows how the rack was held and how the pigs lined up for their feedings.—W. Harry Sherwood, Washington Co.

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Eleanor Ashton's Awakening

By Hilda Richmond

"You can never know how happy you have made me, Frank," said Eleanor Ashton, joyfully. "If you could only go with me my cup of joy would overflow."

"That is impossible, Eleanor," said Mr. Ashton, quietly. "You go on and enjoy your visit. I will have a good time thinking of your pleasure."

"Just to think, my dream has come true," said Mrs. Ashton, fingering lovingly the gold pieces her husband had placed in her hand. "For five years I have dreamed and hoped and planned, and now I am really to go home for Christmas. It will seem like living once more."

"You had better start tomorrow," said Mr. Ashton. "That will give you three weeks before the holidays, and you can take advantage of the rates the railroads are now making."

"How can I wait until tomorrow?" she exclaimed rapturously. "This is the very best Christmas gift I ever had, even if it did come long before Christmas. I can just see the tree at home and the dinner and all my dear friends. It will make life here all the harder, I suppose, but I'm not going to fret about it. I'm going home and that is everything."

Mr. Ashton put the kettle on the fire and prepared the simple supper.

"No drudgery for four weeks!" sighed Eleanor. "What perfect bliss! I'll get to hear some good music again and see what is new in fashions. I feel exactly like a prisoner let loose."

"I wanted you to go to the concert last night but you didn't care to," said Mr. Ashton.

"That! I don't care for any of the amateur affairs in Oakburg. What a blessing it is that you can cook and take care of yourself while I am away. I won't have to worry about a thing."

"I don't want you to worry. I want you to have enough good times to make up for all you have lost since you came to the country."

"That can never be. Nothing but my love for you has held me to this dreary place all this time. I can never doubt that I do love you, for I have endured all the hardships solely on your account."

Mr. Ashton had heard all this many times before, so as soon as possible he changed the subject.

"I wonder if they'll find me much changed," said Eleanor as she hastily dressed next morning. "I hope not."

Mr. Ashton looked at the lines of discontent on the pretty face, the careless manner of dressing her hair, the ugly calico wrapper and shabby shoes, thinking he could see a great change, but he said nothing on that subject. "I put your Christmas gift in the satchel, Eleanor," he said. "Don't open it until Christmas day. I may be very busy and not get to write often and mails are uncertain at holiday time, anyway, so I put it in now."

"I hope it isn't anything expensive," replied Eleanor. "You have spent a great deal on me now."

Mr. Ashton did not answer and his wife was too busy to notice that he did not. Very soon they were hurrying to town to take the train, and by nine o'clock Frank was on his way home again. Not one word of regret did Eleanor express on leaving him, tho she did say she wished he could go along and stay in a civilized place.

Five years before, Eleanor Burnham had married Frank Ashton much against the wishes of her friends and her aunt, who had brought her up from infancy. They all predicted disaster as the natural result of the union, for Frank knew nothing but farming, and Eleanor had never spent more than a day or two on a farm in her life. But youth is too wise to heed any advice and Eleanor went to the Ashton homestead near a pretty Ohio town, leaving her friends in an eastern city to lament over her foolishness.

Looking back over his wedded life, Mr. Ashton could not help thinking that if Eleanor had made the best of things all would have been well. Instead, she began by ignoring the neighbors, criticizing the church and its services, refusing to patronize the stores in the town a few miles away and in every way antagonizing the people with whom she came in contact.

. . . . .

"The first thing is to get you some decent clothes," was her aunt's greeting as she held Mrs. Ashton at arm's length for a critical look.

"Eleanor, you look all of fifteen years older than when you were a bride. I hope now that you see your folly."

"I just want to enjoy myself," said Eleanor with a sob. "I've been so lonely and unhappy."

"Well, well! don't cry!" said Mrs. Burnham. "Crying makes your nose red and it isn't at all becoming."

During the days that followed, Eleanor had scarcely time to write to Frank.

"Tomorrow we will have to go out to see Mabel Boardman," said Mrs. Burnham two days before Christmas. "She was foolish enough to marry a farmer and bury herself in the country, and I was foolish enough to promise her if you came we would visit her. I don't know what I was thinking of, but it was always hard to say no to Mabel. Since I did promise we may be able to do a little missionary work by brightening the day for the poor child. And it may help to further my pet plan of keeping you in the city always. Frank may as well sell his property and bring you back to civilization first as last. From all you tell me, you did very little toward helping him on the farm and it will be better all around for you to be in town."

Mrs. Burnham had talked of little else when she was alone with her niece during the past week, and Eleanor was quite ready to hear such suggestions.

"How do you do?" cried Mrs. Boardman, opening the door and letting out a rush of warm air. She made a pleasing picture in her dainty house dress and white apron, with the dancing flames in the old fireplace for a background. "I am so glad to see you."

"You poor dear!" said Mrs. Burnham. "How do you manage to exist in this dreary country?"

"Dreary! This is the garden spot of the earth," said Mrs. Boardman. "I love every nook and corner of this old place and John and I are doing so well. I wouldn't have him stoop-shouldered and near-sighted over a desk for anything, and besides it is much more pleasant out here than in the city. Eleanor can tell how delightful it is to have one's own cream and fruit and poultry and vegetables, can't you, Eleanor? I am so anxious about my dinner for I haven't kept house as long as Eleanor has, and everything may not be exactly right."

Mrs. Boardman rattled along in her old merry fashion and neither of her guests said much. Mrs. Burnham was frankly bored by the long day away from town, but Eleanor was listening and looking with all her might. The table with its dainty china, its shining silver, and tiny bouquet of geraniums recalled the one at home to which she and her husband sat down three times a day, not because it was similar but because it was so very different. She remembered that all the pretty bits of silver and china that had been given her as wedding presents were packed away, because they required so much care, and the table cloths were the ugly red ones to save washing. It almost brought tears to her eyes as she recalled the white tablescloths that Frank had timidly laid in her lap after a trip to town, but which were folded away still unused in her closet at home.

"Do you have a club in your neighborhood, Eleanor?" asked the hostess. "We have such good times here and such profitable meetings. There are only fifteen of us, but we manage to have good times. Every other meeting we have at night and have the men with us, but everything is delightfully informal."

"Yes, we have a club," said Eleanor thankfully, but she wondered if Mabel would ask if she belonged.

Mrs. Boardman insisted that they should explore every nook and corner of her domain, and Eleanor was surprised to see the pretty devices and little makeshifts she had contrived with her own hands. All pointed to close economy and good management, but everything was clean and dainty.

"Here comes Anna Delmont," said Mrs. Boardman as a young lady came up the walk. "I want you to know her. Of course you heard her sing, Eleanor, for she travels with a high-class concert company, and she told me she sang in your town not long ago. She has a wonderful voice and will make her mark in the world."

Eleanor went thru the rest of the day in a sort of daze. She felt that she was giving some wild explanation as to why she did not attend the concert, and only paid a scant degree of attention to the conversation until they started home.

"I'm going home this very night, Auntie," she said when they reached her aunt's house. "It is of no use for you to say anything, for nothing could stop me. I've been wicked and selfish and neglectful and I'm going to atone for it if possible."

Arguments were of no avail, and at six o'clock she was speeding westward on a fast train that she wished would go still faster. At nine o'clock she changed cars and waited an hour in a second-class city, and every moment of her time was taken up with shopping at the brilliantly lighted stores near the station. She bought a large hamper of holly, Christmas greens, fruits, candies and even a small bunch of mistletoe before hastening to her train, rejoicing in the opportunity to get these supplies.

It was about nine o'clock on the morning of December 24th that she reached home in a buggy she had hired in an Oakburg livery stable. The house was dark and silent, but she soon had fires in every room. She thought nothing of the discomforts of kindling fires and tidying up the cheerless rooms, and was only too glad Frank was not at home just then. She wanted to do wonders before he arrived and needed only time to accomplish her work. She guessed he was away to buy some cattle he had once mentioned, for a hasty trip to the barn revealed the fact that the mangers were all heaped high with hay as if he intended to be gone all day.

The house was scarcely warm before she changed her traveling dress and cleared away the remains of the scanty breakfast on the kitchen table. A little shiver ran over her as she took up the soiled, faded, red cloth which she had told Frank would do while she was away, and she hurried it into the hamper out of sight. Doors and windows were flung wide open and dust and foul air routed before the real work of the day had begun. Once, when she thought she saw her husband coming, she shed tears of dismay, but she was mistaken and took new courage for her tasks.

At twilight she saw him drive into the barnyard and she watched him with a fluttering heart. She supposed he would come straight to the house, but instead he tarried in the barn to do the evening work as if loath to enter his cheerless home. Mrs. Ashton did not light the lamps, and she carefully shielded the fires so he could not see them flickering thru the windows, and then she waited almost breathlessly. In about an hour she heard him stamping the snow off his boots on the back porch, and something she could not define prompted her to rush to the sitting-room where she could see him come in without being seen.

To the end of her days Eleanor Ashton carried in her mind the picture that she saw when the lamp was lighted. Mr. Ashton took one swift look at the shining stove on which simmered and bubbled appetizing foods, at the dainty table brave with silver and glass and china, at the clean floor and the warmth and cheer everywhere apparent, and then sank into a chair to bury his face in his hands and sob.

"Don't Frank," she said with tears running down her own cheeks as she put her arms around him. "It isn't too late for me to do better, is it?"

"Why, Eleanor! You home and did you do this?" asked Mr. Ashton in surprise. "I thought mother or one of the girls had come to keep me from utter loneliness on Christmas eve."

"I don't wonder you could not think of me," said his wife, sadly. "I have been selfish and inconsiderate so long that you could not imagine me coming home to cheer you up." And as he impulsively threw his arms around her they both experienced that new-old joy that they had not felt for a long time.

"You can never know how happy you have made me," said Mr. Ashton as they talked happily together. "Are you sure you are glad to be here with me?"

"Perfectly certain," said Eleanor. "And now we must eat my good supper or it will spoil."

"By the way, did you look at my Christmas gift to you?" asked Mr. Ashton as they enjoyed the delicious food. "I suppose not or you would not be back here."

Eleanor ran to get it, and was soon weeping over the few words the note contained. "I have a buyer for the place and will sell it while you are away," read the note. "You may stay with your aunt, and I will send you the deed to sign. After that I will try to make some plans to enable you to stay in the city."

"Frank, you haven't sold, have you?" she asked in dismay. "It doesn't matter, tho, whether you have or not, for I will never sign the deed. I am going to live down my mistakes and follies right in this very house and neighborhood. See if I don't! Tomorrow we will go to church, and in the evening attend the entertainment for the Sunday school children. It may take a long time to make people think well of me, but I'm going to accomplish that very thing."

"Eleanor, you said your dream had come true when you started home, now my dream has come true. For years I have hoped and prayed for this hour, and I can scarcely realize that it has come. You have given me the best Christmas gift of my life."

When Blackberries are Ripe

Be sure to make some of them into jelly and butter and some jam. If the red berries, only partly ripe, are used for the jelly, the taste will be very delicious and the jelly will come quicker. And juice which is left over from canning should be sealed up and saved for making fruit drinks. You can also can the juice without sugar, and make your jelly any time during the winter when you are less busy.

Blackberry-ade.—This is a good drink. To every 2 cups of blackberry juice allow the juice of an orange and 2 tablespoons of sugar. Dilute with 2 cups of water and serve in glasses with chopped ice.

Blackberry Jam.—Make this, if possible, the day the berries are picked. Make a thick syrup by boiling together 1 cup sugar and 1½ cups water for each cup of berries. Put the washed fruit in and cook until the berries are soft clear thru, and the syrup quite thick and well taken up by the berries. Put into small jars or in jelly glasses and when cold cover with paraffine. Various uses will be found for it besides as a spread for bread or rolls. Some are as follows:

Baked Apples and Blackberry Jam.—Choose large, firm apples and remove the cores. Stand in a deep pan and fill the cavities with sugar. When this has dissolved and the apples are partly done, fill the centers with a spoonful of the blackberry jam. The juice which runs into the apple gives it a most delicious taste. Allow the juice to cook down to a jelly after the apples have been removed, and when cool pour it over them.

Steamed Blackberry Pudding.—Make a batter by mixing 2 cups flour, 2 tablespoons of butter or lard, ½ teaspoonful salt and 2 teaspoons baking powder together. Soften with ½ cup milk. Butter the inside of baking cups and drop a spoonful of the dough into it, spreading it well to cover the bottom. Then put in a spoonful of jam and another layer of the dough. The cup should be a little over half full to allow for swelling. Set in a deep pan in boiling water, cover and steam for half an hour or until a knife stuck down into it will come out smooth. Serve hot or cold with cream or with a blackberry sauce made by thickening blackberry juice with a tablespoonful of cornstarch rubbed smooth in a little of the juice, and sweetening to taste.

Blackberry tarts. — Small disks of pastry dough baked with a little edge and filled with blackberry jam are delightful for any occasion.

Blackberry Butter. — When making the blackberry butter, cook a sliced lemon with the berries. When soft, mash thru a colander and add 1 cup of sugar for each cup of fruit. Put into a deep agate pan and set it in the oven to cook slowly. It will not burn there and will require very little watching. This is nice to serve on thin slices of bread or as a filling for cake, or may be eaten as a dessert with a spoonful of whipped cream on the top.

Blackberry Souffle. — To 2 cups of blackberry butter add the beaten whites of 3 eggs, a drop of both lemon and vanilla flavoring, and beat together. Fill a baking dish and set in a hot oven for 10 minutes. Serve with fresh berries or whipped cream. This is dainty for light refreshment for the evening party.

Blackberry Jelly.—Soak a package of gelatin 10 minutes in 1 cup of cold blackberry juice. Heat 2 cups of the juice to the boiling point, dissolving 1 cup of sugar in it. Pour over the gelatin, and let cool but not stiff, then beat in 1 cup of whipped cream or ½ cup of thin cream and pour over a mound of chipped lemon peel and fresh blackberries. Mold and serve chilled, with whipped cream or thin cream. If whipped cream is not handy, use the whites of 2 eggs beaten stiff in place of the cup of whipped cream. Served in sherbet cups or in tall glasses with whipped cream and a few fresh berries, this is very tempting.

Blackberry Sherbet.—For 2 quarts of blackberry juice allow 1 pint of water and 1 cup of sugar to each pint of this liquid. Add the juice of 2 lemons and freeze.—E. P. L., Delaware Co., Pa.

HANDY TYPE OF CAN

Here is a kind of can which we like pretty well at our house because it is so easy to detect whether fruits or vegetables canned therein are keeping all right or not. The covers have a narrow rubber rim fastened just inside the edge. This rim cements to the can when softened by the heat of the sterilization, and a vacuum is formed beneath the cover, so that in order to break the seal it is usually necessary to punch a hole in the cover with an awl before it can be pried off. When the seal is perfect, one can lift the filled can by the cover, and it will not come off. But if the contents begin to spoil, the gas thus formed lifts the cover enough to break the seal, and thus readily shows you that there is trouble in the cans. The covers are made of lacquered metal. During the sterilizing they are held in place, until the rubber can cement to the can, by means of a spring, as illustrated on the center can. When we remove the cans from the sterilizer, we always stand them upside down for a few hours to see whether the seal is tight or not. Of course, one must buy new covers each year, and as these cost 20 cents per dozen, some object to this can on this account.—H. M.

HOME-MADE PRODUCTS FOR PROFIT

This summer when the appeal for the conservation of food is heard constantly, it is quite easy to get orders from those who want the products and are able to pay for them. With little effort I have several orders, large and small, for preserves, jellies, grape juice, etc. Now that cherries and strawberries are "put up", these, with my glasses of ruby-red currant jelly, mounted on pretentious rows on a high shelf, my delicious raspberry jam in attractive containers, I am very proud, and find myself sometimes opening the door of the preserve room when I have no errand there just for a peep at the delectable contents.

For those who are planning to sell such products, I suggest that the containers be neat and attractive and very plainly and neatly labeled.

Grapes, currants and blackberries, after the first jelly is made, bear a making of a second grade of jelly. Put the pulp from the straining bag back into your aluminum or enameled kettle, add a little water to it and do exactly as you did in the first instance. This is but little inferior to the first making in flavor and color.

Peach Jelly.—Having canned your basket of peaches, and saved all the sound rinds, wash them, put in the kettle and add water enough to stand even with the fruit. Add four or five tart apples cut in small pieces to provide the pectin or jelly substance, for peaches have little of it. Boil slowly for an hour, stirring occasionally, with a wooden spoon. Strain thru a thick flannelette bag or a coarse muslin one. Use 1 lb. sugar for every pint of juice. Boil slowly and skim with a silver spoon all froth that forms. Test by putting a teaspoonful of it in a cup and placing it in water to quickly cool. If it is thick and "jells", remove liquid from the fire at once. (Editor's Note.—Another good way to test for the jelly substance is to stir a tablespoonful of grain alcohol into a tablespoolful of the hot juice. If there is enough jelly pectin in the juice to make it jelly, the alcohol will coagulate it quickly into a jelly-like mass. This is a quicker way to test for jelly. See the article on "Jelly Making" in our June 30 issue, page 13.)

Mint Jelly.—This is especialy palatable to serve with lamb, and is made very easily: Select very light apples, such as Grimes' Golden, as these give a light colored jelly. Remove the cores of the fruit, cut in pieces, barely cover with water and boil until soft. Drain but do not squeeze. (For making mint jelly, the commercial pectin referred to in the above-mentioned article on "Jelly Making", June 30 issue, is very good because there is no other flavor except the mint.) For a pint of the apple juice use a pound of sugar. Add green coloring matter (vegetable and harmless). Put a sprig of fresh mint into the bottom of each glass and pour the hot liquid on it.—Mrs. Elizabeth Jean, Baltimore Co., Md.

DESTROYING HOUSE ANTS

Prevention is better than cure! To avoid a siege of house ants keep the kitchen and pantry clean and refrain from sweeping crumbs into the back yard. Ants are attracted by the presence of grains of sugar and crumbs of bread or cake on the floor or shelves. If the insects become too numerous to eradicate in any other way, the best and many times the only effective method is to find and destroy the nest.

While there are three or four species of ants that occasionally get into the house, the little red ants and the little black ants are the most common and troublesome. The little red ant is the true house species, making its nest behind the plaster, wainscotting or baseboard and mantels, beneath flooring and, in fact, wherever there are cavities with external openings. The little black ant is not strictly a house species, altho frequently found indoors and becoming at times as troublesome as the red ants. Its colonies are usually located under walks and stones, in the yard and under steps and low platforms.

The red house ant is usually difficult to eradicate, but, if the nest is found, two or three ounces of carbon bisulphide can be injected into it, which will kill the queen and workers present and the rest will then die out in time. The nest of the little black ant is more easily located by following the workers as they leave the house and go into the yard. The nest can be treated with hot water or by injecting carbon bisulphide, which may be applied thru one or two holes in the top of the nest. These holes after treatment should be covered over with earth.

Whenever the nests cannot be located, there is no other source but the temporary expedient of destroying the insects in the house. One of the best means of effecting this is to attract them to porous sponges moistened with sweetened water and placed where the pests are most numerous. These sponges may be collected several times daily and the ants swarming in them destroyed by immersion in hot water.—Kansas College Circular.

HELPFUL SUGGESTIONS

Dough Cutting Help.—To keep the dough from sticking to the cutter when making crullers, dip the cutter into hot fat and let it cool, then each time before cutting dip into flour.—E. C. S., Bucks Co., Pa.

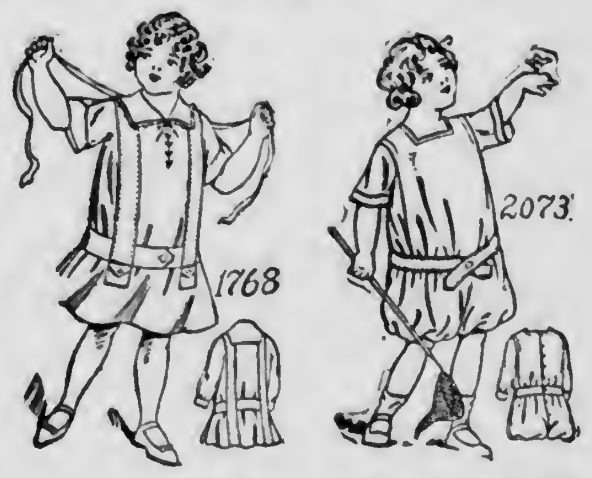
Oil Your Clock.—When your nickle alarm clock stops, before taking it to be repaired try the following: Lay it on its face, take off the winding key, and into this hole drop two drops of any good sewing machine oil. I keep it in a warm place, if the weather is cold. Shake the clock every little while to see if it will tick. If it will not tick in a couple of days, you may know that it needs repairing. I have had them go for two years after doing this.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

2073.—Child's Rompers with Sleeve in Either of Two Lengths.—The pattern is cut in 4 sizes: 2, 3, 4 and 5 years. It requires 2⅜ yards of 36-inch material for a 4-year size. Price, 10 cents.

1768. — Girls' Dress with Strapped Plaits.—The plaits are stitched to position over back and front, forming little pockets in front. The body and sleeves are cut in one. In wrist length the sleeve has a band cuff. In short length it is finished with a shaped facing. The pattern is cut in 3 sizes: 2, 4 and 6 years. It requires 2⅜ yards of 44-inch material for a 4-year size. Price, 10 cents.



Markets

PHILADELPHIA PRODUCE.

Philadelphia, Pa., July 23, 1917.

Heavy supplies of Eastern Shore potatoes are arriving daily and this morning there were 62 carloads on the tracks in addition to the receipts of Jersey potatoes hauled direct to the market. The demand is poor and the market continues weak with prices going to still lower levels. Irish Cobbler potatoes from the Eastern Shore sold at $2.75 to $3.25 per barrel for first grades, and at $1.75 to $2 for second grades. Receipts of Norfolk potatoes are running very poor in quality and the principal range of prices on their No. 1 grade is from $2.25 to $2.75 per barrel, and on No. 2 grades, $1.50 to $2. Jersey potatoes are generally of fine quality and condition and ⅝ bushel baskets of first grade stock are selling at 70 to 80 cents, an second grades at 45 to 50 cents.

Vegetables.

The supply of beans was lighter today with indications for a continued moderate supply. Fancy green beans were in strong demand and cleaned up quickly at 50 to 60 cents per ⅝ bushel basket; some coarser grades sold at 40 cents. Wax beans sold at a similar range of prices as green beans, except for a few fancy clear beans, which brought 65 cents per basket. Receipts of lima beans are coming from the South and selling at $1.50 to $2.75 per bushel hamper, according to the quality. Peas are coming on the market from York State and a car offered this morning sold at $2 per bushel hamper.

Cabbage is in lighter supply but is meeting with very limited demand and near-by shipments are selling at 50 to 65 cents per barrel, and Jersey cabbage at 15 to 20 cents per ⅝ bushel basket. Lettuce went to low prices at the latter end of the past week, but this morning's market showed greater interest and the supply was quickly sold at 65 to 80 cents per box for fancy near-by Pennsylvania lettuce. Shipments from New Jersey and other sections sold at 50 to 75 cents per bushel hamper. Cucumbers are arriving from numerous sections and, with the heavy supply, prices are low. Jersey cukes sold at 50 to 75 cents per ⅝ bushel basket; Maryland cukes at 50 to 75 cents per bushel hamper, and Norfolk cukes at 50 cents to $1.25 per barrel. The demand on onions is poor and very draggy and while receipts are only moderate they are far more than the trade demands at this time. Texas yellow Bermudas from storage sold at $1 per crate for first grade stock. Jersey Yellow Danver onions sold at 60 cents per ⅝ bushel basket.

Tomatoes are more plentiful with the accustomed result that the consumers are showing little interest and the market is becoming draggy. Jersey baskets are selling at 50 to 75 cents for first grades and at 25 to 40 cents for second grades. A few second early tomatoes were received and sold today at $1 per basket. Jersey eggplant was in good demand for the early shipments and sales were mostly at $1.50 per ⅝ bushel basket. Eggplant is still arriving from Florida and sales are made at $1 to $2 per crate. Norfolk shipments are for the large part arriving in bad order; fancy Norfolk eggplant sold at $2.50 to $3 per 60-quart crate.

Bunch beets are meeting with a good demand altho at the low average prices of $1.50 to $2.50 per hundred bunches. Bunch carrots are in heavy supply and the sales are at $1 to $2 per hundred bunches. Loose carrots from Jersey sold at 75 cents to $1 per bushel hamper. Radishes are in very limited demand and are selling at 50 cents to $1 per hundred bunches. Scallions are moving readily at $1 to $1.50 per hundred bunches. Jersey peppers are in limited receipt and the market active at 75 to 85 cents per ⅝ bushel basket. Squash are selling at 25 to 50 cents per Jersey basket of ⅝ bushel.

Fruits.

Altho the receipts of Georgia peaches are increasing the market is strong and the demand is quite active. Twenty-six cars were on the tracks today and sales on Georgia Belles were made principally at $2.25 to $2.50 per six-carrier crate, altho some over-ripe stock sold as low as $1.50 per crate. Georgia Elbertas were in strong demand at $2.50 to $2.75 per six-carrier crate for fancy grades, and ordinary stock sales wer emade at $2 to $2.25 per crate. Some peaches arriving from Delaware and Maryland were immature and unattractive, sales made at 50 cents to $1 per half-bushel basket.

Fancy canteloupes are finding an outlet for almost double the quantity consumed by this market last season. The market is strong on all fancy receipts but a large quantity arriving are soft and over-ripe. California greenmeat canteloupes in the standard crates of 45 sold at $2.50 to $3 per crate, and jumbo crates of 36 sold at $2.75 to $3 per crate. Pony crates of 45 sold at $2.25 to $2.50 and flat crates containing from 12 to 15 canteloupes sold at 90 cents to $1.15 per crate. Georgia standard crates sold at 60 to 75 cents, and flat crates of pink-meats sold at 50 to 60 cents. Arizona standard crates of fancy stock sold at $2.75 to $3 per crate, and pony crates at $2.25 to $2.50.

With 88 cars of watermelons on the tracks at the opening of this week's market, the demand was good and the market continued steady. The bulk of shipments now are arriving from South Carolina. Tom Watson melons averaging 16 to 20 pounds, sold at $125 to $150 per car; averaging 21 to 25 pounds, $145 to $175; 26 to 28 pounds, $160 to $185, and heavier stock at $175 up to $200 per car. Some shipments arriving here are showing bad decay and sold at $100 to $150 per car today.

Shipments of apples are moving out from Delaware in increasing quantities and the market is strong on fancy hand picked grades at $1.75 to $2.25 per hamper, and at 75 cents to $1.25 for medium grades. Jersey apples are in moderate supply and according to quality are ranging in price from 50 cents to $1.50 per ⅝ bushel basket. Huckleberries are in liberal receipt and selling at 10 to 15 cents per quart. Blackberries from New Jersey are selling freely at 8 to 11 cents per quart; raspberries at 3 to 6 cents per pint. Currants are in plentiful supply and selling at 10 to 11 cents per quart.

Poultry.

Live fowl continued in light supply and the market was quickly sold up on fancy fowl at 22 to 24 cents per pound. Plump yellow-skinned spring chickens weighing 1½ pounds to 2 pounds apiece sold readily at 28 to 30 cents per pound, and smaller sizes at 25 to 26 cents. White Leghorns were in fair request at 20 to 24 cents per pound; old roosters at 16 to 17 cents, and live ducks at 17 to 19 cents per pound.

The supply of dressed fowl is slightly heavier and the market easier. Fancy dry-picked fowl weighing about five pounds average sold at 25 cents per pound; 4½ pounds, 24½ cents; 3½ to 4 pounds, 23 to 24 cents per pound, and lighter stock sold at 21 to 22 cents per pound. Old roosters, dry-picked, sold at 18 cents per pound when fancy. Jersey broilers weighing 1½ to 2 pounds apiece sold at 35 to 40 cents per pound; Virginia broilers, 32 to 35 cents per pound with strong demand; other near-by broilers sold at 25 to 28 cents per pound. Near-by spring ducks sold readily at 20 to 21 cents per pound.

Eggs.

Fancy eggs are scarce and the market holds firm under the limited supply. Near-by firsts sold at 36 cents per dozen; near-by current receipts, 35 cents; near-by seconds, 31 cents. Southern shipments of first grade eggs are selling at 33 to 34 cents per dozen.—Selmarad.

NEW YORK PRODUCE.

New York City, July 23, 1917.

The butter trade opens firm and higher, but cheese is unsettled and lower. Eggs are unchanged. Supplies are low and arrivals lighter. Potatoes show very little change from last week. Prices on vegetables tend to lower levels.

Butter.—Creamery, extras, (92 score), per pound, 39½@40c; higher score, 40½@41c; thirds to firsts, 34½@39c; state dairy, 34@40c; ladles, 33@36c.

Cheese. — Fresh colored specials, 22¼@22½c; white, 22¼@22½c; undergrades, 8@17c.

Eggs. — Fresh gathered extras, 35@39c; extra firsts, 36@37c; near-by white, fine to fancy, 41@43c; ordinary to good, 38@40c; browns, 37@40c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 35c lb.; old roosters, 17c; squabs, $1@3.75 per dozen. Spring ducks, per lb., 20@22c; turkeys, fresh killed, 22@23c.

Vegetables and Greens.—Beans, per basket, 75c@$1. Beets, per bbl., $1.50@2. Onions, per crate, 50c@$1.35. Potatoes, Jersey, $3@4 per bbl.; Jersey sweets, $1.50@3 per basket. Carrots, $2@4 per bbl.; lettuce, 25@60c basket; spinach, per bbl., 35@75c; cucumbers, 40c@$1.50 basket; radishes, $1 per bbl.

Country Dressed Veals. — Choice, 21½c; prime, 20½@21c; fair to good, 19@19½c; coarse, heavy, 17@18c; buttermilks, 14@15c.

YORK PRODUCE MARKETS.

York, Pa., July 23, 1917.

The special feature of the Saturday markets was the display of corn. It was of a good grade but few truckers had any to offer. It was eagerly taken up at 30@35c doz. There was a rather large display of potatoes but trading was light. Apples were plentiful and nice ones were in demand at 8@10c box, and 18@20c ½ pk. Eggs advanced several cents and sold better than for several weeks. Corn has reached $2 bu. and middlings $3 cwt. Many thousands of dollars worth of feed is bought within a radius of 7 to 8 miles of York and it is becoming a question what to buy, and whether to buy at all. With eggs for some time selling at 30@31c, butter 35 to 42, milk 20c a gal. wholesale, and much uncertainty about the fall hog market, we would be glad to see some of those city advisors and financiers figure out a balance sheet for us this year.

Eggs.—31@35c doz.

Butter.—County, 35@40c lb.; separator, 38@42c; milk, 8c qt.

Poultry.—Hens, 19@21c lb.; springers, 25@28c; dressed, 80c@$1.75 each.

Vegetables.—Potatoes, 10@25c ½ pk.; cabbage, 1@5c hd.; lettuce, 3@10c hd.; beets, 3c bch.; radishes, 5c; onions, 5c; lima beans, 30@35c qt.; soup beans, 35@40c; celery, 4@7c stalk; tomatoes, scarce, 10@20c box; peas, 20c ½ pk.; beans, 10c ½ pk.; rhubarb, 5c bch.; turnips, 25@30c ½ pk.; muskmelons, 3@10c each; watermelons, 25@40c; corn, 30@35c doz.; cucumbers, 2@3 for 5c.

Fruits.—Apples, 10@24c ½ pk.; raspberries, blackcaps, 10@12c bx.; reds, 18@22c; blackberries, 10@15c; peaches, 15@30c ½ pk.; plums, 10c bx.

Retail Grain Market.—Wheat, $2.30; corn, $2; oats, 90c; rye, $1.75; bran, $2 per cwt.; middlings, $3 per cwt.

Wholesale Grain Market.—Wheat, $2.18; corn, $1.75; oats, 75c; rye, $1.50; bran, $38 per ton; middlings, $53 per ton.

PHILADELPHIA LIVESTOCK.

Philadelphia, Pa., July 23, 1917.

Receipts for week ending Saturday evening, July 21, 1917:

	Beef Cattle.	Sheep and Lambs.	Hogs
Total for week	3,846	8,439	5,948
Previous week	3,371	6,498	6,153

Calves.—Total for the week, 3,010; previous week, 2,795.

Beef Cattle.—Calves of desirable quality met with fair sale and ruled steady under moderate offerings but the under grades were dull and weak.

Steers.—Extras higher; good to choice, $12.25@13; fair to good, $11@12; milch cows, $75@120; bulls, $7.75@10.50; cows, fat, $7.75@9.50; fair, $6.75@7.75; ordinary $5.00@6.50; bolognas, $2.50@5.00. Calves, exceptional lots, $15.50@16; good to choice, $14@15; medium, $11@$12.50; common, $8@10; Tennessee and southerns, $8@12.50.

Sheep and Lambs.—Sheep met with fair sale and ruled steady under moderate offerings. Lambs were dull and lower, with supplies fairly liberal.

Sheep.—Wethers, extra, $10@10.50; choice, $9.50@10; good, $8.50@9; medium, $6.50@7.50; common, $3@5. Ewes, heavy, fat, $8@8.50. Lambs.—Extras, $15.75@16; fair to good, $14.50@15; common, $10@12.

Hogs.—Demand was fairly active and the market ruled steady under moderate offerings.

Best western, $15.75@16; lights, $14.50@15; roughs, $13@14.

City Dressed Stock.—There was little trading and the market ruled weak, with prices of calves slightly lower. Offerings were fairly liberal.

Steers, 16½@20c; heifers, 14@17c; cows, 12@17c; calves, 20@21c; southerns and barnyards, 14@17c; country dressed, 18c; extras, 19c; sheep, 21c; extras, 22c; lambs, 26c; extras, 27c; hogs, 22c.

PITTSBURGH LIVE STOCK.

Union Stock Yards,
Pittsburg, Pa., July 23, 1917.

Cattle.—The supply on sale Monday was 150 loads compared with 120 loads the week before. The market ruled slow with prices generally lower on all grades, the decline being 10 to 15c for the better grades with weight. Cattle on the coarse order sold lower; fat tidy cattle sold about steady. Heifers were in liberal supply and sold about steady on the best fat grades, while those on the thin order sold slow and lower. Best fat cows sold steady and bolognas and medium grades ruled easier. Bulls were stronger on all grades. Best fresh cows, steady; springers slow. Today's supply was 150 loads. With only a moderate demand the market opening was slow with prices about steady with Saturday on desirable fat steers, while other grades ruled still easier.

Good to choice	$12.50@12.75
Good, 1300-1400 lb.	12.00@12.40
Medium to good, 1200-1300 lb.	11.50@11.75
Tidy, 1050-1150 lb.	11.25@12.00
Fair to medium, 1000-1100 lb.	9.75@10.50
Fair, 900-1000 lb.	8.75@ 9.50
Common, 700-900 lb.	7.00@ 8.25
Rough, half-fat, 1000-1300 lb.	9.00@11.00
Common to good fat oxen	7.50@ 9.00
Common to good fat bulls	7.00@ 9.50
Common to good fat cows	6.25@ 9.25
Heifers, 700-1100 lb.	7.00@10.50
Bologna cows	5.25@ 6.00
Fresh cows and springers	25@90

Calves.—Receipts of calves liberal and the close for the week was 50c per cwt below Monday's prices. Today's receipts of calves were 1,200 head. Choice calves sold steady but others went lower.

Veal calves	$10.00@15.00
Heavy and thin calves	5.00@ 8.50

Hogs.—The supply of hogs during the week has been liberal, and with only a fair demand and easier prices at other markets our market has ruled lower all week, but it was fairly active, the close being about 40c per cwt. below Monday's prices. Hog receipts today were 20 double-deck loads, and the market ruled higher generally than on Saturday.

Prime heavies	$15.70@.....
Heavy mixed	15.70@.....
Prime medium weights	15.70@.....
Best heavy Yorkers	15.70@.....
Light Yorkers	15.30@.....
Good pigs	14.50@14.75
Common to good roughs	13.60@14.00
Stags	12.25@12.50

Sheep and Lambs.—The supply of sheep and lambs has ruled only fair. Prices ruled 10c per cwt. below last Monday's prices on choice sheep, while yearlings and lambs ruled steady at Monday's close. Today's receipts were 20 double-deck loads. The demand was light, and the market ruled slow and lower on lambs, while sheep sold steady.

Prime wethers (95 to 100 lb.)	$10.25@10.50
Good mixed	9.25@10.00
Fair mixed ewes and wethers	8.00@ 9.00
Culls and common	4.00@ 6.00
Culls to choice yearlings	8.00@12.00
Spring lambs	10.00@15.00

J. F. W.

PHILADELPHIA HAY AND GRAIN.

Philadelphia, July 23, 1917.

Baled Hay and Straw.—Receipts, 216 tons of hay and 1 car of straw. The hay market was quiet but steady, under moderate offerings. Straw sold slowly and showed little change. Quotations:

Timothy hay, No. 1, large bales, $20.50@21; No. 1 small bales, $20.50@21; No. 2, $17.50@18.50; No. 3, $15.50@16.50; sample, $11@13. Clover-mixed hay—Light mixed, $17.50@18.50; No. 1, do., $16.50@17.50; No. 2, do., $14.50@15.50. Straw—No. 1 straight rye, $13@13.50; No. 2 do., $12@12.50; No. 1 tangled rye, $12@12.50; No. 2 do., $11@11.50; No. 1 wheat straw, $11.50@12; No. 2 do., $10.50@11; No. 1 oat straw, $11.50@12; No. 2 do., $10@10.50.

Bran.—The market was quiet but firm under small supplies. Quotations, car lots, including sacks:

Soft winter bran, in 100-lb. sacks per ton, $37.50@38; spring bran, in 100-lb. sacks, per ton, $35@36.

Corn.—No. 3 yellow, nominal; No. 4 yellow, nominal.

Oats.—No. 2 white, 90c; standard white, 89½c.

Rye.—Nominal.

PITTSBURGH HAY AND GRAIN.

Pittsburgh, Pa., July 23, 1917.

Hay.—While the supply of hay during the beginning of the week was liberal, nevertheless the market held fairly firm and all arrivals are placed at quotations. Market good No. 1 timothy, $17.50@18; No. 2 do., $14.50@15.50; No. 3 do., $13@14; No. 1 light mixed, $15@15.50; No. 1 clover do., $15@15.50; No. 2 clover mixed, $13@14; No. 1 clover, $15.50@16; No. 2 do., $13@14.

Straw.—Trade dull; receipts in excess of demand; all arrivals hard to place. No. 1 oat, $10@10.25; No. 2 do., $9.75@10; No. 1 wheat, $10@10.25; No. 2 do., $9.50@9.75; No. 1 rye, $10.75@11.25; No. 2 rye, $9.75@10.25.

Ear Corn.—Demand fair and equal to supply; market good. No. 2 yellow, $2.10@2.11; No. 3 do., $2.06@2.10; No. 2 high mixed, $2.08@2.09; No. 3 mixed, $2.06@2.07.

Oats.—Supply light but demand is same; market steady. No. 2 white, 83½@84c; standard, 82½@83c; No. 3 white, 80½@82c; No. 4 do., 80½@81c; sample (white oats), 78½@80½c.

NEW YORK HAY AND GRAIN

New York City, July 23, 1917.

Feed.—Prices of all grades closed the week at the highest level of the advance started a short time ago. Western qualities apparently continue as the market leaders and mills are very firm in their ideas. Uncertainty as regards the food bill, very small stocks of wheat and the difficulty experienced in securing fresh supplies, together with the fears that maximum prices will eventually be established, are the factors mainly responsible for the strength. This in turn has forced a reduced mill output. Quotations (per ton): Prompt shipments, western spring in 100-pound sacks, $38; standard middlings, $46.50; flour, in 100-pound sacks, nominal to arrive; red dog to arrive in 100-pound sacks, $60; city feed bulk bran, $37.40; 100-pound sacks, $39; heavy feed in bulk, $46.40; 100-pound sacks, $48; red dog, $59; flour, $68. Linseed oilmeal, $52 per ton.

Hay and Straw.—The tone of the market is steady at most terminal sheds on all grades of large baled hay, but small baled hay continues weak and is being sacrificed at track delivery points to clean up.

Hay.—No. 1, $22; No. 2, $18@19; clover, $17@18.

Wheat.—New, hard winter, $2.80.

Corn.—No. 2 yellow, $2.12@2.115. Last year, 90⅜c.

Oatts.—No. 2 white, 92c. Last year, 47c.

Rye.—$2.40. Last year, $1.07.

ELGIN BUTTER MARKET.

Elgin, Ill., July 21, 1917.

Butter.—38c bid; 100 tubs offered. No sales.

PHILADELPHIA DAIRY MARKET.

Philadelphia, July 23, 1917.

Buter.—Wholesale trade, as usual on thh last day of the week, was quiet, but offerings of solid-packed creamery were light and values were well maintained at the late advance. The undergrades were pretty well cleaned up at inside figures. Fancy prints sold fairly and ruled firm, but there was some unattractive stock around, which was little wanted and irregular in value.

Western fresh, solid-packed creamery, fancy specials, 42c; extra, 40@41c; extra firsts, 39c; firsts, 38c; seconds, 37c; nearby prints, fancy, 43c; average extras, 41@42c; firsts, 39@40c; seconds, 37@38c; special fancy brands of prints jobbing at 46@49c.

Cheese.—Trade was slow and prices favored buyers, with offerings moderate but ample.

New York, full cream, fancy, new, 23@23¼c; specials higher; do., do., choice, new, 22¾c; do., do., fair to good, new, 22@22½c.

NEW YORK MILK MARKET.

New York City, N. Y., July 23, 1917.

Demand is better than a week ago, owing to weather conditions, but despite a falling off in production estimated at 25 percent from the maximum, there is ample to meet the requirements of the market. Demand is likely to be good the remainder of the month. Some of the dealers are talking about raising the retail rate for bottled milk from 11½ to 12½ cents a quart on August 1 in order to meet the new producers' rate. Apparently consumers will hereafter be obliged to pay different prices each month according to the prices paid to the producers. The League rates to the producers of grade B (barn score 55) in the 26-cent zone are $2.10 a hundred for 3 percent milk; $2.31, or 4.9 cents a quart for 3.6 percent milk; and $2.45 for 4 percent milk.

The receipts of milk and cream in 40-quart cans for the week ending July 21 were as follows:

Railroad.	Milk.	Cream.
Erie	42,249	3,459
Susquehanna	5,420	82
West Shore	12,942	2,058
Lackawanna	70,290	3,250
N. Y. Central (long haul) including Rutland	125,985	4,004
N. Y. Central (short haul))	26,210	54
Ontario	36,695	4,795
Lehigh Valley	44,377	2,404
Homer Ramsdell Line	3,810	75
New Haven	3,341	185
Pennsylvania	21,710	690
Other sources	1,440	64
Totals	394,669	21,120
Same week last year	397,552	21,175

TOBACCO MARKET.

It has been said that if the large factories are short of tobacco they will soon be in the field contracting the growing product, but it was shown some time ago that an attempt of this nature was exceedingly unsuccessful. One thing is sure and that is all approaches will be firmly met by growers and if sales are made they will be at high prices. As in the former movement it would probably be well to refuse all offers as no grower is in position to cope in judgment with those on the inside of factory movements. It is a pretty safe assumption that no matter what might be offered now it will be less than can be had at a later date and also that should some unforeseen contingency cause a lower market later, buyers would then find many excuses to relieve them of their obligations.

The growing crop is now doing fairly well but there is still an unfavorable deficiency in temperature and rainfall. Insects, too, are hindering late plantings, but their season will soon be past with the main exception of the regular tobacco worm, which continues all thru the season and even into the curing shed, where it may damage the harvested plants. These worms may be picked off by hand or when they become too numerous they may be destroyed by Paris green. At this time when the new crop is in the formative period no opportunity of cultivation should be overlooked and all weeds should be promptly removed, as it is true of tobacco as well as of other crops, that but one product can be successfully grown at a time.—H. E. Tweed, July 23.

CHICAGO HORSE MARKET.

Horses were in moderate supply last week with a small demand except for army horses, which went readily at $150 for cavalry mounts. The many horses not accepted by the inspectors of army horses sold badly, as usual. Some good chunks went at $175@200, and drafters were quoted at $185@265. Inferior animals sold around $60@90, and drivers sold mainly at $100@200, while farm chunks were worth $60@200, few going anywhere near the top. The Swiss government is buying army horses at $150@175. The United States is buying light artillery horses, weighing from 1,150 to 1,300 lb., paying $175 for gunners.—F.

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The following are prices of our guaranteed tires:—

Sizes	Price	Sizes	Price
30x3	$6.50	36x4	$11.00
30x3½	$7.50	34x4½	$12.00
32x3½	$8.50	35x4½	$12.00
33x4	$10.50	36x4½	$13.00
34x4	$10.50	37x4½	$13.50

We will retread your worn tires—no matter what condition, at these prices and guarantee them.

Sizes	Price	Sizes	Price
30x3	$5.50	36x4	$8.50
30x3½	$6.00	34x4½	$8.50
32x3½	$7.00	35x4½	$9.00
33x4	$8.50	36x4½	$9.00
34x4	$8.50	37x4½	$10.00

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25 H. Peerless steam traction engine, 24 H. Port Huron, 22 H. Peerless, 22 H. Pitts, 20 H. Huber, 20 H. Russel, 19 H. Port Huron, 18 H. Peerless, 18 H. Pitts single and double cylinder, 18 H. Huber, 18 H. Nichols and Shepard, 18 H. Wood Bros., 16 H. Huber, 16 H. Pitts, 15 H. Case, 15 H. Port Huron; 36" Case steel grain thresher, 32" Advance, 28" Wood Bros., 30 and 34" Pitts, 33" Peerless; and many others. Write us for complete second hand lists. New machinery is high, buy rebuilt machinery and save money.

The BANTING MFG. COMPANY,
114 Superior St., TOLEDO, OHIO.

HAY Ship To The Old Reliable House Daniel McCaffrey's Sons 623-625 Wabash Bldg., Pittsburgh, Pa.

Dairy Cattle

Spot Farm Holsteins $15 to $20
For high grade calves either sex express paid in lots of 5. 40 large high grade and 12 registered Holstein cows due in Aug. and Sept. 35 registered heifers 1 to 2 years old. 40 high grade heifers, and registered bulls.
JOHN C. REAGAN, Tully, N. Y.

Auray Farms
Are offering exceptional bargains in young Purebred Holstein Bull Calves—$100 up. Crated—Delivered—Guaranteed! Bred from a Full List of A. R. O. dams, and sired by our King Lyons Fayne, whose dam is a sister of the World's Record 50 lb. Cow. Largely white and splendid individuals.
Write for charts and particulars to
Irving M. Avery, Mgr., Sparta, N. J.

Polled or Naturally Hornless
Registered Holstein-Friesian bull calf, born May 27, 1917. More white than black. Sire is from our world's 4 per cent yearly record family, whose dam and granddam made more than 1000 lb. butter in a year. First check for $100 claims him.
Geo. E. Stevenson & Sons, Clarks Summit, Penna.

Holstein Bull Calf Sired by a son of King Segis Pontiac Alcartra, the $50,000 Bull and from a granddaughter of De Kol 2nd Butterboy 3rd; nicely marked. Price $30 or exchange on O. I. C. gilt.
C. E. CASSEL. HERSHEY, PENNA

High Grade Holstein Calves
Either sex, beautifully marked, $20 each. Reg. Holstein cows, heifer and bull calves, shipped anywhere.
F. H. WOOD. BOX A. CORTLAND, N. Y.

Holstein Sale Sept. 20
of registered stock. Write for catalog.
BOB SEEDS, BIRMINGHAM, PA.

Holsteins Registered 4 year old bull that has A. R. O. daughters, 2 registered calves, 2 registered 2-year-old heifers; also 3 grade heifers. Prices right. PLUMLY'S FARM, FAIRVIEW VILLAGE, PENNA, (near Norristown.)

Reg. Holstein bull calf, born March 31st, 1917. Dam, a fine cow, has just made 17 lb. 3 year old record. Sire is son of 23 lb. cow; price right. Inquire of J. B. Winkelblech, Lewisburg, Pa.

Guernsey Bull Calves from 4 to 10 mo. old, sired by a son of Begalore 10101 whose sire was Imp. Mashers Galore 8572. C. A. WRIGHT & SON, CANTON, PA.

Belle Alto Guernseys Registered Promising young bulls for sale, 1 to 6 mos. at very reasonable prices. M. H. Mc Callum, Mgr. Belle Alto Farm, Wernersville, Pa.

Reg. Holsteins Pair of young cows. One has creditable A.R.O. record. Both are big cows and good producers. Bred and priced right. WILLIAM S. KER, R. D. 9, CARLISLE, PA.

Holstein Calves 5 Registered heifers and 7 bulls, from a 30-lb. sire. Write for prices and pedigrees. WALTER M. CRUTTENDEN, Wilkes-Barre, Pa.

Jersey Calves Both sexes. Fine stock of the most noted pedigrees in the world. FRED G. W. RUNK, ALLENTOWN, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEAPS FARMS, R. D. 1, Harrisburg, Pa.

Guernseys & Cheshires The quality cow and the quality pig. Let us know your future needs. Fred W. Card & Son, Sylvania, Pa.

Reg. Jerseys Cows, heifers & calves, priced right. CHARLES G. FOSTER, P. O. Box 173, Morristown, Morris Co., N. J.

Registered Holstein bull calves from a ton show bull and heavy milking dams. Best breeding. Write I. V. OTTO, CARLISLE, PENNA.

AYRSHIRE BULL CALVES Advance Registry ancestry. Priced to sell. They will improve your herd. ROBERT TEMPLETON & SON, ULSTER, PA.

Among the Granges

Bucks and Philadelphia Counties. — Pomona Grange No. 22 met June 6, 1917 as the guest of Pineville Grange. Master Samuel Foster presided. The following resolutions were presented and unanimously adopted and ordered sent to President Wilson, House of Representatives and Senate, also local newspapers:

Resolved.—First, that we pledge to the President and Our Country our loyal support and further pledge that we will use every possible means to feed our people and all those with whom we are in sympathy.

Second, we are willing to and will provide all the food we possibly can, but we protest against any farm products being used for the manufacture of intoxicants.

Third, we believe that farmers will serve their country better by using their surplus funds for the purchase of fertilizers, seeds, etc., for the production of more food products rather than by the buying of Liberty Bonds.

KEYSTONE GRANGE HALL, MONT. CO. PA.

The literary program opened with instrumental music. "To what extent will co-operation increase the nation's food supply," was answered by general discussion. A recitation by Mary Ridge followed.

"Would government regulation of food prove advantageous to the nation in the present emergency," was answered by William Hurley, who said: "The present shortage of food was caused by the short crops of 1916, the war needs, and the heavy buying of housekeepers who fear a greater shortage. The food laws now being proposed are to be used only in times of great stress.

"We do not need to fear famine but we do need to take care of food products intelligently. High prices stimulate greater crops, and also more economy on the part of the housekeeper. In New York City the garbage collected has reduced 50 percent in quantity, and more in quality since prices advanced." A live and interesting discussion followed. Margaret Slack sang "The Low Back Car" and responded to encore. "Hot weather conveniences in the farm home," was the subject of a helpful talk by Beulah Atkinson. Helps mentioned were running water, and a bath room; coal oil, gasoline or gas stove; gasoline iron, fireless cooker; stained or painted floors with rugs, well-fitting screen doors and windows, and a high stool so you can sit down to do many tasks. Directions were given for disinfecting barnyards to prevent flies.—Mabel R. Briggs.

Montgomery County, Pa.—Harmony Grange had an interesting and suggestive debate, "Resolved, That there is more satisfaction in market gardening than in fruit growing," which was won by the negative side, tho both sides brought out some valuable points, among them being:

That in trucking there is only a small capital invested, and that the returns come in soon, as in some crops only six weeks being required until the vegetables are ready for the market.

In case there should be a loss of the trucker's crop, or a portion of it, the loss is not so keenly felt as in fruit raising.

While vegetables are a necessity, fruit is a luxury. In a world food crisis like the one at present, truckers can come to the rescue quicker than fruit raisers. One frost a year is all that a fruit grower can stand, making his work for that year a financial loss, and a gain in pleasure only. On the other hand, a frost to the trucker means a delay only; and not a seasonal loss.

The advantages of growing fruit were stated as being: Fruit growing is a more scientific art than market gardening and the labor is lighter and more pleasant. Tho the trucker may get early returns from his vegetables, growing fruit is a more constructive enterprise, requiring nearly a lifetime for completion, and the returns are in proportion to these factors.

Small fruits, such as bramble fruits, strawberries, etc., bring profitable returns to the farmers in the first few years.

The market gardener has to take into consideration his location to a good, near market, and to the soil; while to the fruit grower these factors are not so important.

—

Harmony Grange held a meeting recently at which interesting and important addresses were delivered. "What should be done in our community to aid the boys socially and morally?" was answered by Darlington Hoopes.

He said, "One way to aid the boys of the community, socially and morally, is to rid the community of the saloon, as well as to discourage the tobacco habit."

"Altho fortunes made in farming are comparatively rare," said C. L. Platt, in telling why he had chosen farming as his vocation, "it offers an opportunity for a good, healthy living, besides furnishing an opportunity to work with both mind and body."

Ernest Heebner pointed out the fact that the farmer owes a vital duty to his country. "A patriot today has the choice of three ways to serve his country: Enlist, plow, or purchase bonds; and certainly a young man in the country who neglects to do any of these forfeits his right of protection by the government!"

Roy Bobb told of the benefits he had derived from the grange work, saying: "The value of club work lies in training; it teaches correct methods of production and management, as well as accurate methods of accounting and how to use them to the best advantage. The offering of rewards by the grange is an important factor, as it creates enthusiasm, and thus tends to keep the boys on the farm, which is one of the farmer's vital and often pitiful problems."

"A young man should go to college," declared John K. Snyder, who has obtained a college education, "because it creates a broader field to work in; it makes a man more independent intellectually; broadens his view of life; and very few young men, indeed, ever regret having taken a college course."—H. M. East, Jr.

Swine

Berkshires of Size and Quality
The boar, Majestic Mammoth 229590, weight 407 lbs. at 7 months old was bred and grown by us. When you want the best and want them big, write to—
C. H. Carter, Whitguern Farm, West Chester, Pa.

HAMPSHIRES
Bred gilts for fall farrow, pigs any age, free circular. Registered Guernsey Bulls, from $35 up.
Locust Lawn Farm
Bird-In-Hand.
Box 2, Lanc. Co., Pa.

Reg. P. Chinas, Berkshires, C. Whites. Large strain, all ages, mated not akin. 8 weeks pigs, bred sows, service boars, Collie and Beagle dogs. Grade Guernsey calves and poultry.
P. F. HAMILTON, COCHRANVILLE, PA.

Silver Spring Farm Berkshires All sold. Nothing to offer until fall. J. P. WINAND, HAMPTON, PENNA.

Mulefoot Hogs oldest breeder in the state. Pedigreed stock for sale. SAMUEL JOHNS, Wilmington, Ohio. Sec. D.

LARGE BERKSHIRES AT HIGHWOOD Service boars, bred sows, pigs all ages. H. C. & H. B. HARPENDING, Box 45, Dundee, N.Y.

High Grade Reg. Berkshires for sale. Satisfaction guaranteed or no pay. W. S. JOHNSON, BERWICK, PA.

CHESTER WHITES and POLAND CHINAS All ages. Registered free. Jersey bulls. J. A. BOAK, ROUTE 4, NEWCASTLE, PA.

Reg. O. I. C. Swine Spring pigs and bred gilts. HIDRI VIEW FARM, Mt. BETHEL, PA.

O.I.C. & Chester White Choice brood sows; service boar. Fred Bryan & Son, Star Route, Mansfield, Pa.

O. I. C. Pigs Silver strain from choice sires. Ready to ship, prices reasonable. BRUBAKER BROS., MIFFLINTOWN, PA.

Durocs 3 choice service boars & fall boars. Gilts will be bred for Aug. & Sept. Spring pigs mated not akin. Ira. D. Jackson, R. 10, Van Wert, O.

Large Berkshire Swine Registered High Grade. Prices reasonable. Write HOME FARM, CENTER VALLEY, PA.

Berkshires high class pigs for sale, July, Aug. & Sept.—Masterpiece blood cheap. W. J. Mc CONNELL, OXFORD, PA.

Reg. O. I. C. "Ferndale Stock Farm," Salem, Ind. Big type. Prices reasonable. Prize blood. M. U. JOHNSON, ASHTABULA, OHIO.

Reg. O. I. C. Boar, weight 350; a good sire of large litters. Also May farrowed pigs. L. F. NICHOLAS, Mt. Bethel, Pa.

Poultry

The "MOHEGANITE" Strain of S. C. White Leghorn "3 HENS IN 1"
from trapnested ancestry recording 180 to 250 eggs in pullet year. Pound Pullets $1.40 August delivery. Yearlings $2 to $2.50.
Mohegan Farm, Box M, Peekskill, N. Y.

S. C. W. Leghorns "Tom Barron Strain." The large kind, prolific layers. Breeding stock for sale. 1 1-2 lb. cockerels from imported high record sires, $1.25 each, five or more $1 each. These cockerels will cost you $10 next season. Order from adv. IVYWOOD POULTRY FARM, Box 71 A. Avondale, Chester Co., Pa.

140,000 Chicks Sold We cannot accept any more orders for this season. Our chicks are all engaged. We thank all our customers for their patronage. Will have a capacity of 250,000 chicks for 1918. D. W. GOODLING, Prop. KEYSTONE HATCHERY, RICHFIELD, PA.

S. C. White Leghorn baby chix, pullets, hatching eggs, 250 egg strain. Long deep bodies, yellow legs & beaks & large red lop-over combs. A. R. GRAVES, R. D. 2, REXVILLE, N. Y.

CHICKS 15c each, $13 per 100: Silver, White and Columbian Wyandottes, S. C. Red, Ducklings, Rouen, and Runner, 22c each, $20 per 100. Aldham Poultry Farm, R. 39, Phoenixville, Pa.

The Business Farmer's Hen for eggs, meat and winter layers. Trapnested White Orpington eggs, chicks and stock. Honest values and square deal guaranteed. STEVENS RELIABLE YARDS, Box P, Lyons, N. Y.

CHICKS White Leghorns, $8. Barred Rocks and R. I. Reds, $10.90 per 100. Circulars. E. R. HUMMER & CO., R. D. Y., Frenchtown, N.J.

Cockerel Sale S. C. White Leghorns at $1.25 each. The large kind. March hatched ready for shipment now. Order from adv. GUY C. ZENTZ, R. D. 1, FINKSBURG, MD.

Eggs 13 $1; 30 $2; Purebred Rocks, Wyandottes, Reds, Hamburgs, Leghorns; 19 varieties. Also Brahmas, Houdans, Orpingtons, Campines. 35 years. Catalog. S. K. MOHR, COOPERSBURG, PA.

S. C. White Leghorns Eggs for hatching. Send for catalog describing our mating for this season. Fertility guaranteed. Hidri View Farm, Box 17, Mt. Bethel, Pa.

Golden or Silver Campines 30 eggs for $2, 24 fertile eggs guaranteed. I. R. TANGER, York Springs, Pa.

Chicks S. C. W. Leghorns 8c & up. Money refunded for dead chicks. Circular free. W. A. LAUVER, McAlisterville, Pa.

TELL the advertiser you saw adv. in Pennsylvania Farmer.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Spaying—Enlarged Haw of Eye. —I would like to know if the weather is too warm to have a jip spayed? I also have a yearling colt troubled with enlargement of the "washer" or "winking" membrane of the eye. This part of the eye has grown so much that it has risen high enough to cover two-thirds of the eye ball, and the opposite eye is slightly affected. G. G., Shirleysburg, Pa.—Unless you have a clean, well-ventilated, reasonably cool place in which to keep her, you had better postpone the operation until cooler weather; however, there is very little risk if the work is done by a skillful surgeon. Your yearling colt suffers from an inflammation of the membrane nictitans of the eye and in order to effect a cure this muscle will perhaps have to be removed; but before doing so you had better blow on one part calomel and four parts boric acid, once a day.

Nasal Catarrh.—I have a horse that seems to have a catarrhal affection, making him breathe hard. At times he has quite a discharge from the nostrils, after which he is relieved for a time. He also has a cough. I would like to know what to do for him. V. M. W., Yardley, Pa.—Mix together one part powdered sulphate iron, one part ground nux vomica, one part powdered nitrate of potash, one part ginger, four parts ground gentian and give him a tablespoonful at a dose in feed, three times a day. Dissolve one ounce cooking soda in a pint of tepid water and swab out nostrils, twice a day.

Obstructed Teat.—I have a fine Jersey heifer that recently suffered from teat trouble. Between morning and evening the teat swelled considerably and I was unable to milk her without the use of a milking tube. The hole in the end of teat appeared to be closed. At first there seemed to be a little hardness in end of teat, but that has disappeared; however, I am unable to milk her without the use of tube. F. L. B., Cortez, Pa.—Apply one part fluid extract belladonna and three parts olive oil to teat, twice a day after milking. If there is a wound or sore on end of teat, cautiously apply tincture iodine or apply nitrate of silver as a caustic. But remember you should only touch the sore parts.

Slimy Milk.—We would like to know why our milk sometimes becomes slimy. We wash and scald the separator and buckets and rinse them with cold water afterwards. We suspect that our cows perhaps eat weeds, which causes this trouble. B. M. A., Herman, Pa.—Slimy milk is usually caused by a germ called bacillus lactis viscosus. This germ is very often found in water. Perhaps washing your milk utensils with cold water is causing the whole trouble. It is no easy matter to get rid of this germ, even if you scald your buckets and separator with hot water. Pouring sour milk into your buckets and allowing it to remain will often destroy the germ. I would suggest that you boil water thoroly and allow it to cool before you rinse your separator and milk utensils. Also, air your milking utensils outdoors in the sunlight.

Calf Ration.—I have a three-months-old calf that is not very fond of milk. I have been feeding it some bran and oats and it runs in orchard pasture. M. S. T., Ripley, N. Y.—Feed the calf equal parts oats, oil meal, corn and wheat bran. Give it plenty of pasture feed.

Bruised Withers.—One of our work horses has a swelling on withers, but the collar does not touch it. I am at a loss to know how this horse could have hurt his shoulder. The swelling appears to be hard, but there is no matter. K. L. E., Elmhurst, Pa.—Your horse may have bruised his withers while rolling, or his mate may have bitten him. If you will paint bunch with tincture iodine, three times a week, the swelling will gradually subside and he will get well.

NEW SHIPPING RULES

The Pennsylvania Railroad is inaugurating a change in methods of receiving, loading and forwarding less than carload lots of freight to affect all of its lines east of Pittsburgh. The present custom of receiving less than carload freight at all stations, at any time of day, will be abolished. In its place will be substituted a system whereby acceptance and loading of freight in less than carload lots will be per schedule and such freight automatically concentrated into full loads at point of shipment. To accomplish this there will be:

1. The inauguration of shipping days on which cars will depart from various points of origin to specified destination; freight for such points will be on shipping days only, and the cars will be moved out as specified.

2. The designation of particular stations at which freight will be exclusively received for specified destinations; freight for such points will be accepted at the stations named only.

The primary purposes of the change are described as being:

1. Elimination of delay incident to rehandling under present methods, giving shippers quicker service.
2. Conservation of car supply.
3. Reduction in number of car and train movements required to transport a given volume of freight.
4. Improvement in regularity of freight service by systematizing and simplifying operations.

The management announces that it believes the proposed changes will increase the efficiency, promptness and regularity of freight service. It is proposed to continue sufficient local pick-up freight service to meet the requirements for smaller stations.

NEW BOOK

The Rural School from Within.—By M. G. Kirkpatrick, B. S. Ph.D., Kansas Agricultural College. Published by J. B. Lippincott Co., Philadelphia. For sale thru Pennsylvania Farmer. Contains 300 pages, price, $1.28.

Interested as we are in the improvement of the rural schools, and realizing that the success of any school lies largely in the efficiency of the teacher, we recommend this book to every rural school teacher. As a work on methods of teaching, it is unique in style since the author weaves into his personal experiences as a teacher the philosophy, psychology and methods of teaching and school management in such pleasing style as to make the work as readable and interesting as fiction. We feel sure that any teacher will be well repaid for reading it by the sense of greater ability and the consciousness of increased power that are sure to be experienced. We believe that it would be public money well spent for school boards to place a copy in every school library.

COUNTY NOTES

Sussex Co., Del., (S.) July 11.—The cantaloupe crop promises to be one of the largest ever grown here, in spite of cutworms, rose bugs and other insects. Early plants were eaten close to the ground, necessitating some replanting. Large quantities of carriers are ready for the growers. Seaford, Bridgeville and Selbyville are large shipping centers, sending out as high as 50 cars daily in the highth of the season. A movement is started to secure better regulation of loading and to secure better shipping facilities. A buyers' organization will also be formed to regulate distribution and prevent market gluts.—A. C. Outten.

Mifflin Co., Pa., (C.) July 13.—First week in July fair, second week rain every day until the 13th. Stock high and in good demand. Dressed beef, 17@18c. Corn and oats looking very well; hay a good crop and most that is made went in without rain. Very little wheat cut yet. It was not ripe the first week in July, and this week it rained too much to do anything. No market for wheat just now. Corn, $2; oats, $1; butter, 35@40c; eggs, 32c. Some making hay. Most farmers cutting wheat. Corn not finished working and will likely be neglected on account of the hay and wheat. Farm help scarce, farmers helping one another.—J. H. Byler.

Choose YOUR Remington

WHATEVER your favorite form of shooting, here is the arm for it—whether it is the Autoloading Shotgun or Pump Gun; and in Rifles, everything from the light .22 single shot (not illustrated) to the high power .35, in both Autoloading and Slide Action Repeating models.

A complete series of arms enjoying nation-wide approval never equalled by any other make of firearms.

As for Ammunition, everybody knows and likes "Arrow" and "Nitro Club" (the *steel lined* "speed shells")—the "New Club" (*black powder*)—and Remington UMC Metallic Cartridges, made in all calibers and loads for every make of rifle, pistol or revolver.

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THE REMINGTON ARMS UNION METALLIC CARTRIDGE CO., Inc.
Largest Manufacturers of Firearms and Ammunition in the World
Woolworth Building, New York

"Uncle Sam" Has The "Right Of Way"
Munitions and Crops will soon overload the railways
ORDER WARNER'S
"LIMOID"
(Pure "Cedar Hollow" Hydrated Lime)
And Take Delivery Now
Greater Crops in 1918 means more lime than ever must be used on the soil.
CHARLES WARNER COMPANY, Wilm'n, Del, Phila., Pa., N. Y. City.

Farmers Drain Your Land. Increase the value of your land by using JACKSON'S Drain Tile. Acres of Swamp Land reclaimed and made fertile with our tile. We are also manufacturers of Hollow Brick and blocks. Dealers in Sewer Pipe, Flue Lining and Builders' Supplies. Write for our catalogue "Benefits on Drainage and How to Drain."
DRAIN TILE
JOHN H. JACKSON TILE CO., Inc., 110 THIRD AVENUE, ALBANY, NEW YORK.

PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880
PUBLISHED WEEKLY
Vol. 42—No. 5. PHILADELPHIA, PA., SATURDAY, AUGUST 4, 1917. 75 Cents per Year

Headlee Dr T J
Rutgers College

Weak Links in the Fruit Business

Uniform Grading and Packing Essential to Success

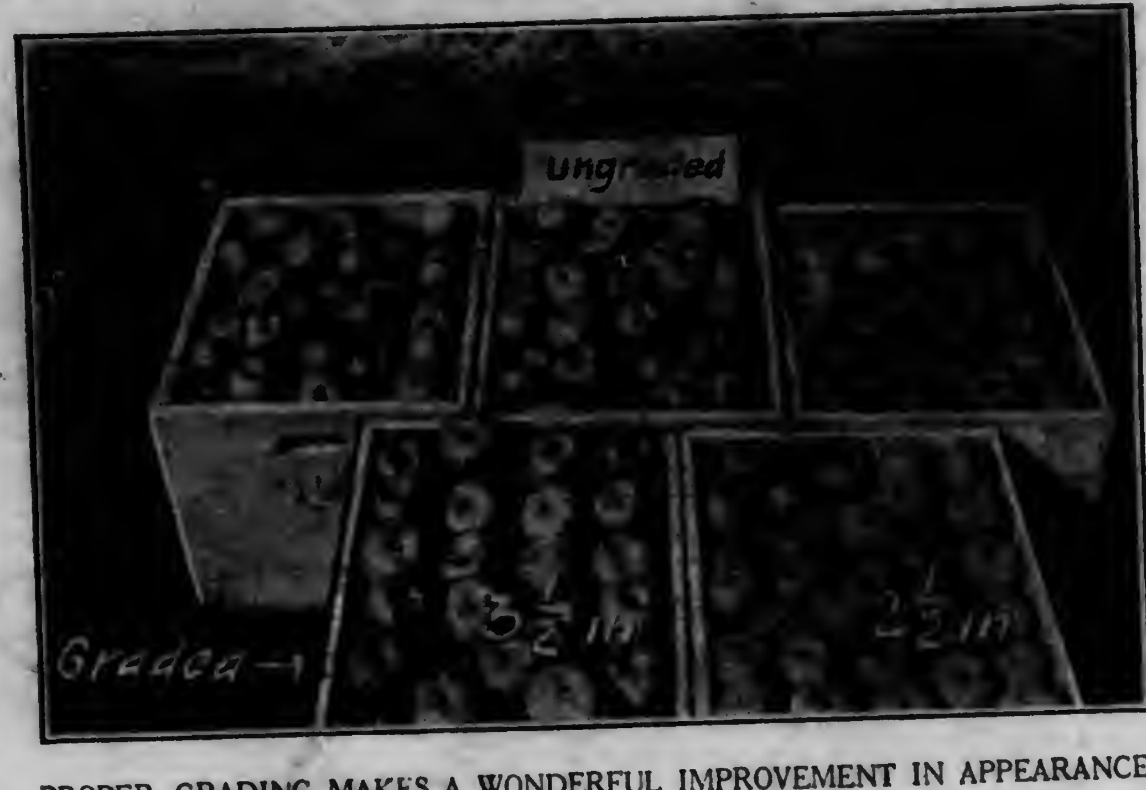
By SHELDON W. FUNK
Penna. Dept. of Agriculture

Every chain is as strong as its weakest link, and likewise every business is as strong as its weakest point. Fruit growing is certain to become one of Pennsylvania's greatest occupations in the future because her conditions are all favorable for its development. There is no better fruit soil than we find in Pennsylvania, and it can be bought at a reasonable figure. We are in the center of the greatest home market area and at the doorway of our greatest foreign market, which means low transportation charges. Our conditions are favorable and we have proved that we can grow some of the finest fruit that can be grown anywhere; but still we do not have the reputation. Pennsylvania does not have the standing she should have as a fruit state. In order that a business be strong, it must be strong in every point and I believe that the main reason we do not have a better reputation for fine fruit is because we have a very weak link in our method of grading and packing.

I know of a very few men who are paying a great amount of attention to the packing of a carefully graded package. I have had buyers tell me that Pennsylvania is way behind even our neighboring states in grading and packing and I know that, in a great many cases, it is true. The only reason I can see is that we have not been compelled to grade more carefully because we have exceptionally good markets and have usually been able to find a good market for ungraded fruit. "Necessity is the mother of invention" and I realize that if we are forced to do it, we can grade and pack as well as anyone. We should not have to be forced into it. Pennsylvania should have a reputation for producing the finest apples in the East but we can never get it without good grading and packing. Ungraded apples never get you a reputation (except an undesirable one).

Of course the first essential in marketing fruit is to have good fruit. Pennsylvania can and is producing good fruit; fruit that cannot be surpassed by any state in the Union. I realize that we are still growing a great deal of poor fruit, but each year we are raising the standard. More and more fruit is being thinned each season and when trees are well taken care of and the fruit thinned, good fruit is sure to follow in Pennsylvania. I say we have the first essential, namely, good fruit. The next thing is to make the consumer realize that we have good fruit and thereby create a demand for it. In other words, our fruit must have a reputation and it must get that reputation with the consumer on its own merits.

If a man wants to gain a reputation along any line, he must do his work in that particular line better than anyone else. If our fruit is to get a reputation among the consumers, it must be better than other fruit. Therefore, the next and most important step in making the other fellow believe in our fruit is good grading and packing, so that he can see with his own eyes and have no grounds for doubting the fact. Good fruit, properly graded and packed, will sell itself and make its own reputation. Good fruit, ungraded, like the beggar, is "passed by on the other side." A barrel of two-inch apples, for instance, makes a fairly good appearance and will give satisfaction, if they are all two-inch apples. But mix in a few three-inch apples and the appearance is spoiled. The color is just as important as the size and a few green apples in a well-colored barrel ruin its appearance at once.



PROPER GRADING MAKES A WONDERFUL IMPROVEMENT IN APPEARANCE.

These two items are important, but they are not the most important part of grading. They give the prospective buyer an idea of what he can expect. If not marked, he refuses to pay a high price because his barrel may be a barrel of culls or it may be a barrel of fine fruit. On the other hand, when a buyer orders a barrel of well-colored two-and-a-half-inch Baldwins, he knows what to expect and will be willing to pay accordingly. Grade your fruit to a certain standard and stick to that grade thru thick and thin. We have a lot of reasonably large growers in Pennsylvania who are doing this very thing and they are making money. They have no trouble in getting a good price for their fruit and they do not have a whole lot of trouble with commission men. Why? Because their fruit has made a reputation. The commission men do not take liberties with them because they know it would not be healthy to do so and besides, they want their business.

It isn't the big fellow about whom I want to write. He can take care of himself. It is the little fellow. He is the one who is always in trouble; he is the one who makes good picking for sharks among the middlemen. His fruit always arrives in poor condition or strikes a dull market. Why? Sometimes because he did not grade, pack or ship it properly, and sometimes because he gets into the hands of a shyster commission man who, knowing that he is a weak little lamb who can not fight back, shears him good and close. Do not misunderstand me and think that I believe all commission men to be rascals; I know they are not. We have a great many good, honest commission houses, but in a business where a man has the privilege of first taking out what he wants and giving the remainder to the other fellow, it is natural that we find some who are crooked. I believe that the reputable commission firms should help the producers drive the crooks out of the commission business, not only to protect the producer but the honest middlemen as well.

We hear much today about solving the high cost of living by cutting out the middlemen. Our favorite slogan is "direct from the producer to the consumer." That sounds good to the ear of the producer and consumer because it is putting the blame on the other fellow. If you want applause, it is a splendid theme to take, but when you sift it down it is mostly tommyrot. We will never reduce the

(Continued on page 10.)

THE DIFFERENT PACKAGES USED IN HARVESTING PEACHES IN PENNSYLVANIA.

THE COUNTY FAIR---II By Fair Goer

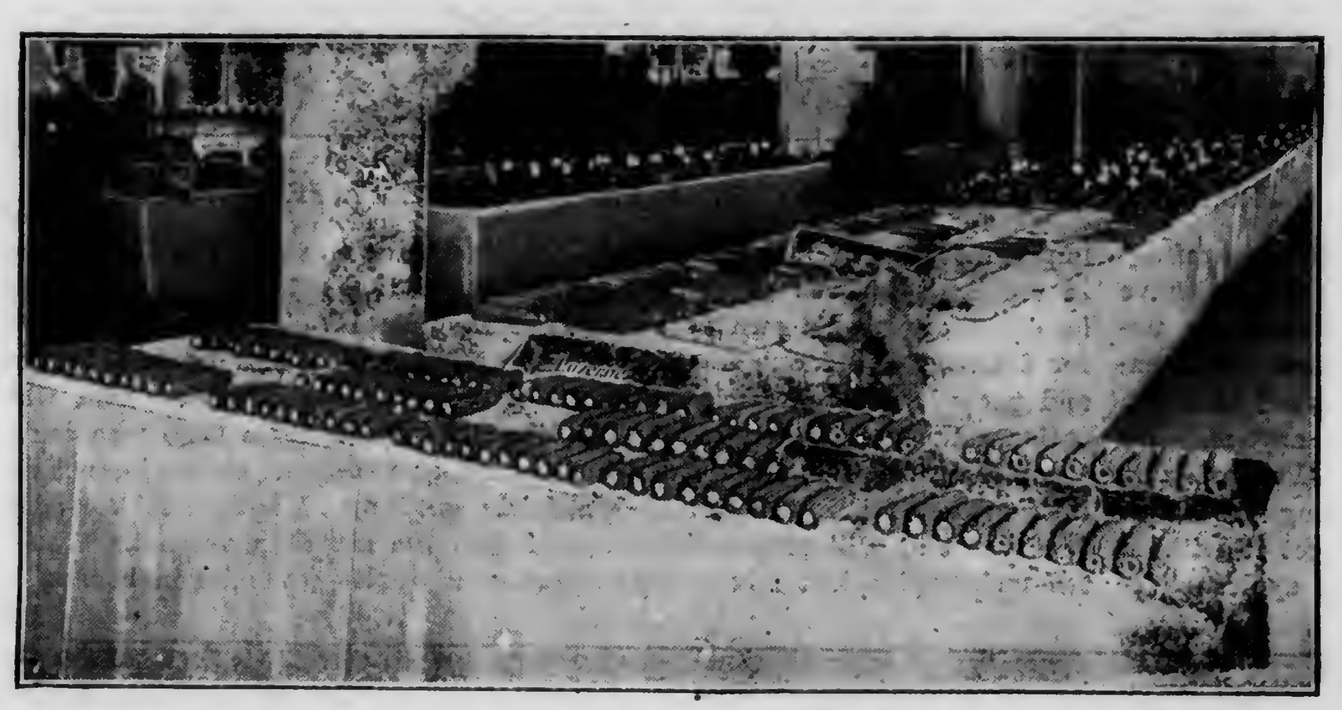
The county fair should be conducted primarily as an educational and wholesome recreational institution. The county fair should be the exponent of the best type of farming in its county, just as the school is the exponent of the best in education, the church the exponent of the truest type of religion, or the live grange or club of the best in community interest. The church, for example, if it be efficient, centralizes all religious thought, religious teaching and is every helpful. Just so the county fair, if it fills its place, centralizes all agricultural thought, introduces new but practical farm crops, discourages the production of poor stock, etc. The school, club or church are not and never will be money makers. They should keep buildings in good condition, pay reasonable salaries to their agents, but never store up money. The same is true of the fair. It should not be a money maker, primarily. It should keep its grounds in good condition, build new buildings, but should not make money for its stock-holders, except perhaps a low interest. If money is made it can be well expended in better buildings or larger prizes for agricultural products.

The county fair should be a great annual farmers' reunion, a gala week for profit and pleasure. To be a success, the fair must have three things: good exhibits of farm stock, crops and products, good exhibits of farm machinery and equipment, and good weather. People will not visit a fair ground year after year where there is only good weather, or good crops, or good live stock. Those interested in live stock will attend a live stock fair, but the farmer will not come and spend his good money to see only cattle when he is interested in grains or fruit. In other words, the farmers will only patronize a well-balanced fair where they may be instructed, see good cattle and see their exhibits in competition with other farmers of the county. Even the mid-way men begin to realize this, for they cannot make money if the farmer does not come to the fair.

SMALL AUTO WITH HANDY DELIVERY BODY.

The Exhibits

The fair should be educational, instructional and entertaining. There are so many different types of exhibits that come under these three heads that it is difficult to subdivide them. An exhibit may be instructive, have an educational value and also be entertaining. There are a number of free exhibits that can be secured by any agricultural fair. These free exhibits show a wealth of material which is of interest to the farmer and they have been almost the only great attraction at some fairs.



A SECTION OF THE CORN AND APPLE DISPLAY AT THE PENNA. PRODUCTS SHOW.

The Pennsylvania State College School of Agriculture and Experiment Station's educational exhibit has visited almost fifty fairs in the past three years. It shows many new things in farming, results of experiments, herds of live stock, etc. The Pennsylvania Department of Health sends out a large exhibit showing health suggestions that are of value and interest to all rural people. The Pennsylvania Live Stock Sanitary Board maintains an exhibit of more than ordinary interest to the farmer as well as the city consumer of milk and other live stock products.

All of these exhibits visit the fair free of charge. They are self-contained, as they carry a large tent, and each exhibit is in charge of trained men who will answer special questions. In many instances the Health Department doctors have been called upon to take care of people taken ill upon the grounds. The State College and Live Stock Sanitary men are often called upon to judge stock, give lectures, etc.

Exhibits by manufacturers of labor-saving machinery, of farm machinery, of tractors, of auto trucks, milking machines, etc., all put such good instructional exhibits that they should be given more space. Here it is that the farmer agent will learn why his engine will not do its best, for the specialists in charge know the origin of the trouble. Just now when the farmer must grow more crops with less help he should use as much as practical of the new labor-saving machines. He can look them over at no better place than at the fair; then buy the following winter or spring.

The Races

If everybody who has stood at the fence and held their breath at a race are consigned to condemnation, the number will make a goodly crowd and include all professions, creeds and colors. A picture that is ever present in the writer's mind is that of a large stout man standing by the race track swinging a hat (the width of the brim of which is established by his church). As his hat smote the air, his voice (that had graced many a pulpit) was heard to utter that magic word, ''Go!'' ''Go!''. He enjoyed seeing a good horse run and could no doubt preach a better sermon the following Sunday for having seen that race.

The ''free for all'' with local horses always holds particular interest for young and old. Several years ago the writer saw a mule race in which a prize of $25 was offered to the owner of the mule that made the best time in a mile race. Old ''Jim'' and ''Harry'', two gray mules that had always lived, worked and grown up together, entered the race. They had been inseparable since that first day in a Missouri pasture. They had always been together, either side by side at work, or nose to tail as they had run in their coltish days. When the word to go was given they started galloping, side by side. Half way around the track old Jim became tired and began to trot. Harry likewise began to trot. Three-fourths of the way around Jim started to walk. Of course Harry must also walk. No words or entreaties would bring them in any faster, and when they reached the grandstand, Jim was in the lead with Harry close enough to touch him with his nose.

The third contestant had been training his mule for days. He started on a gallop. On the straightaway he looked like a sure winner. Straight as a mule can run he made for the gate. He ran up and down by the gate. He brayed in his earnestness. Only a few rods either side of that gate would he go, then return and try to get out. Every patron left the fair that day with sides aching from laughter. The race should be given second place rather than first place, as it is given on many fair grounds.

Cattle Exhibits

One of the most important exhibits at any fair is good cattle. Many a fair association in a small, near-sighted way does not allow good herds of cattle from an adjoining county or state to show for prizes. They give as a reason that they think local people should have full chance at prize money. They overlook the fact that the community is benefitted by seeing good cattle and if the local men cannot compete with a really good cattle exhibit they do not deserve the prize money. The larger number of good cattle that the farmer can associate with, if even for a week, has a beneficial effect upon him and upon his community. If good herds will not come to a fair, give them some inducement to come, even to paying transportation, so that your fair may have some really good cattle to show. In a few years you will have doubled the number of live stock you had last year.

I know two breeders of registered Berkshire hogs who have built pens for exhibiting their hogs upon fair grounds. They are to have the use of these pens every year they show, but the pen is to become the property of the fair association when they do not use it. This is a good way to advertise and these pens can be made much more attractive than the ordinary exhibit pens. Several fairs offer prizes for the best farm exhibit to consist of all products of the farm. These farm exhibits can be made very attractive.

All fairs should arrange their fair dates for the time when they can secure the most farm products. Smaller fair circuits can be made by four or five fairs joining hands and saying we will have our fair when we can get the most exhibits. Corn should be ripe, apples ready to pick, and potatoes dug, so that these three products could make up their fair proportion of the exhibits. Good substantial prizes should be offered as an inducement for ''named varieties'' of these products. A product that cannot be named should receive no prize.

The Judges

Good judges that know what constitutes a good exhibit can be secured usually by applying to the county agents from the Department of Agriculture or from the agricultural college. A good judge is indispensable.

The Church should control the dining room on the fair ground. They should have a good substantial building in which they could serve good, clean, pure food. They should not depend upon a tent. They can serve plain home-made pies, roast chicken and egg sandwiches, and make good money. They should have a place where the people can sit down and eat in comfort.

The morals of many fairs are bad and the church people are to blame for this because they have withdrawn themselves from contact with the fair crowds. In the fall of 1914 an exhibitor approached a pastor in the community where the fair was to be held and asked why he with the other pastors of the place could not hold a Wednesday evening open service on the fair grounds. The pastor was enthusiastic about the plan. The other pastors co-operated. They brought out some singers and a large bonfire was built, around which 300 people gathered. They sang the old familiar hymns their mothers used to sing, and all joined in. The pastor of one church made a prayer. Another sang a solo. Two small boys sang the ''Brewers Big Horses''. Then the pastor spoke for ten minutes on his conception of what religion means to a man. Then the concession people began to call for old songs and two hours were spent in good work. One of the men (an owner of a Wild West show) publicly thanked the church people for this kindness on their part. He said, ''You must think all people who follow the fairs are Godless people. We are rough and rude, and each one lives according to his own light; but we enjoy a meeting of this kind. In my twenty years of following the fairs, this is the first meeting of its kind I have ever known and it is also the only religious meeting I have attended in that length of time, but it will not be the last.''

The opportunity presents itself. Will the church take advantage of it? Sometime I would like to discuss the farmers' duty toward the county fair.

BY THE WAY

In reviewing the progress of agricultural development for the past 25 years, the addition which I believe has been of greatest economic benefit is the silo. Its adoption and use has revolutionized the business of raising and keeping bovine animals by providing a succulent feed during the winter, or the year 'round, for that matter. The steady growth of animals, or the maximum flow of milk, is no longer dependent upon June pasture. Not only in the effect of silage upon the animals fed are the benefits found, but the conservation of a greater part of the corn crop makes the silo a doubly beneficial institution. Before its introduction, thousands of farmers kept their cows milking during the summer season only, because they felt that they could not make a profit by feeding dry feed alone.

To Francis Morris, of Howard County, Maryland, belongs the credit in America of evolving the idea of silage. In 1876 he dug a pit in the ground and filled it with whole corn forage, covering it with earth. History does not tell us just how satisfactory the result was, but there must have been at least some of it fit for feed—enough to encourage further experiment.

In 1877, a French farmer, Goffart, published a book on the siloing of corn and other green crops, covering 25 years of practical experience. By this it will be seen that it is 40 years since the idea was planted in America, yet, like all new ideas, it was long in taking root, and it may truthfully be said that the present use and popularity of the silo is a development of the past 25 years.

The original objections made to the use of a silo were something like these: ''It is a waste of good corn.'' ''Such sour stuff is not fit to feed.'' ''It will taint the milk.'' ''I can't run the risk of losing my corn crop,'' etc. These and many others were given. However, experience has proved the error of all these excuses and it is seldom these reasons for not having a silo are heard in any up-to-date farming community. The reason usually given by a farmer is the first cost, or a claim that by carefully storing the fodder and grinding the ears he can get as good results. These arguments are offered by those who do not have silos, not by farmers who have had experience with them.

There is no method of storing any kind of forage so that no loss occurs, but the silo will conserve a much greater part of the corn crop than will any other method. Careful experiments show that the average loss thru fermentation in a silo holding 65 tons was about 8 percent—being most near the top. But the loss in feeding value of corn fodder as ordinarily handled is from three to five times this amount. It was found by Wisconsin experiments that well-made corn shocks left standing in the field a few weeks lost 24 percent of the dry matter, and a like amount of crude protein. Another gain to be mentioned is that of the corn cob. This is retained in a digestible condition, to a large extent, when cut into silage, while if husked and dried—even if ground—it is largely indigestible and the value is lost. The cost of harvesting an acre of corn by the silo method is much less than hand-cutting, husking, storing and shredding fodder, and grinding the grain. When all these factors are considered, it is no wonder owners of silos are enthusiastic, or that the number is increasing so fast.

The question of silo filling is a matter for consideration. The number of days at which corn is at the stage in which it makes best silage are few—probably not more than from four to six. Of course, much is put up within a wider margin than this, but it is at more or less of a loss. If cut too green, it has not reached the greatest feeding value; also, the fermentation is greater and more acid is formed. If too ripe, moisture is lost, fiber is formed, and there is greater danger of mold forming. For these reasons, it should be put in at just the right time, which is while the stalk and leaves are green but the grain is just passing out of the milk stage.

For the above reasons, which are fortified by the experience of others, I have found that a silage cutting equipment just large enough for one or two farms is more satisfactory than it is to wait for a big cutter to come around. By the latter method, one is often forced to fill too soon, or must wait too long. But if each farmer, or, what is better, two or three farmers jointly own an equipment, the silos can be filled at the proper time and, being smaller, a smaller crew will suffice. This arrangement also makes it possible to refill, something which can not often be done if the commercial cutter is used. My last word is to recommend a corn harvester for cutting the corn. This is a money-saving addition to the silo equipment.

AN INDIVIDUAL EQUIPMENT IS HANDY AND ECONOMICAL.

—Father Penn.

Late Cultivation of Potatoes

Cultivation is essential to the profitable production of planted crops. But it should not be indiscriminate, for it may be so directed as to methods and times as to do harm rather than good. Early cultivation is almost always desirable. Late cultivation may not be beneficial. This is emphatically true of the late potatoes. On many farms it is a question whether to give this crop another cultivation or leave it alone until harvest.

In fairly fertile fields in which the rows of potatoes are not more than three feet apart, the soil from two to four or five inches below the surface is pretty well filled with roots. Some of these are of considerable size. It is probable that the more important part of the entire root growth of the plants is within three and one-half inches of the top of the ground.

This being the case, it follows that anything approaching deep cultivation must destroy a great many roots. At any stage of the growth of a plant such an injury to its root system will promptly, and to a considerable extent, check its growth and development. This change is especially marked where the roots are severely pruned and the tops are left entire. Even a vigorous tree suffers greatly when treated in this manner. Because of this, it is the custom, when trees are transplanted from the nursery to the field, to shorten the branches and thus balance the loss of the ends of the roots which are cut off when the trees are taken up.

It is plain that after the potato roots have pretty well filled the soil, a great many of them must be ruined by any cultivation which does more than merely scratch the surface of the ground. Consequently the ''hilling up'' which many farmers practice when the plants are in blossom, and for a week or two afterward, must be very harmful; for it is impossible to obtain sufficient loose dirt for the purpose without cultivating to a considerable depth, and that cannot be done without extensive damage to the roots of the plant.

This would be a serious matter at any period in the life of the plant. But late cultivation of the potato intensifies the evil because it causes the damage at the time when the plant is least able to withstand it. The formation of tubers, which is a heavy draft upon the vital energies of the plant, is now going on rapidly. Any adverse influence at this stage of its growth will quickly and seriously lower the vitality of the plant and will surely retard the development of the tubers which have begun to form. It is possible to reduce the normal yield of a field of potatoes from one-fourth to more than one-half by a single deep cultivation at the wrong time—and that, as a rule, is any time after the plants have fully blossomed.

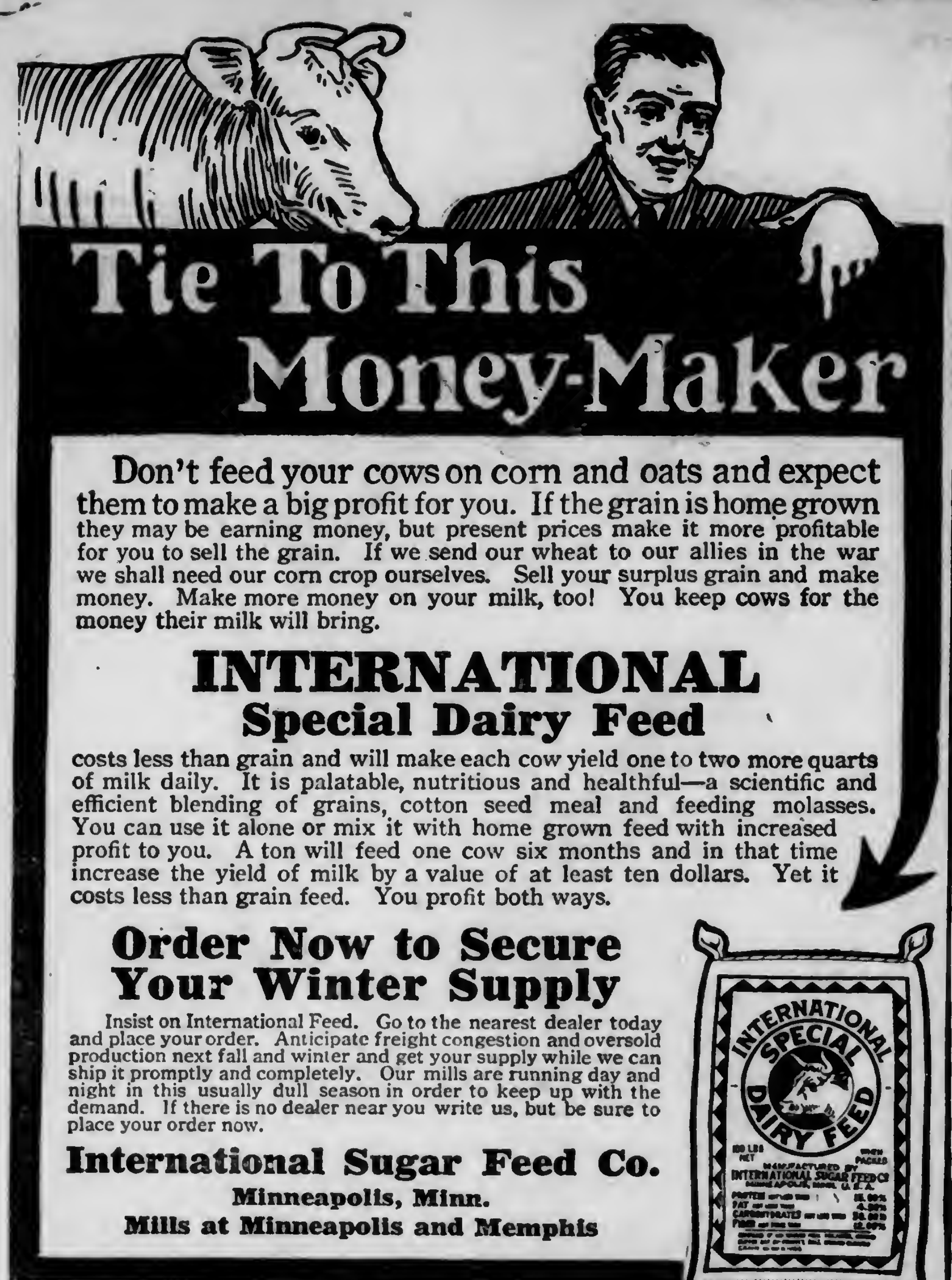
It is true, however, as the advocates of late cultivation assert, that in some cases it brings certain benefits. It helps to destroy weeds where they have started between the rows and it prevents sun-burn of tubers which are not fully covered with earth. If it is not too deep it may also improve the condition of the surface of the ground. Whether these advantages are sufficient to pay for the time and labor which it will require, and over-balance the injury to the plants which it will cause, is a question to which no answer of universal application can be given. It is a matter which should be determined by the conditions of each individual case.

It will be found upon examination that the roots of plants are nearer the surface in a wet season than in a dry one; partially because they are not required to go down for moisture and, also, they require access to air in the soil. Another reason is, cultivation which may have been prevented by wet conditions does not interfere with near-surface growth. For this reason care should be taken not to cultivate deeply at the close of a wet season.—Elliot.

Eradicating Poison Ivy

The persistency with which poison ivy perpetuates itself, and its all too pervalent occurrence emphasize the necessity for persistence in control measures. If possible, it should be grubbed out by one who is immune to the poison and the parts of the plant gathered into a pile and burned. Do not inhale the resulting smoke or allow it to get into the eyes.

When no one can be found who is immune to the plant, it may be grubbed out in the fall after it has ceased to flower and the sap has left it. The person doing the work must be thoroly protected against contact with plants by gauntlets and overalls, and the parts of the clothes touched by the plants should not come in contact with the skin. If this method seems undesirable, the botany department of the Pennsylvania State College recommends the application of a few drops of concentrated sulphuric acid at the base of the stem close to the roots every few days. This may be done with an ordinary mechanic's oil can. Hot brine or caustic soda may be substituted for the sulphuric acid.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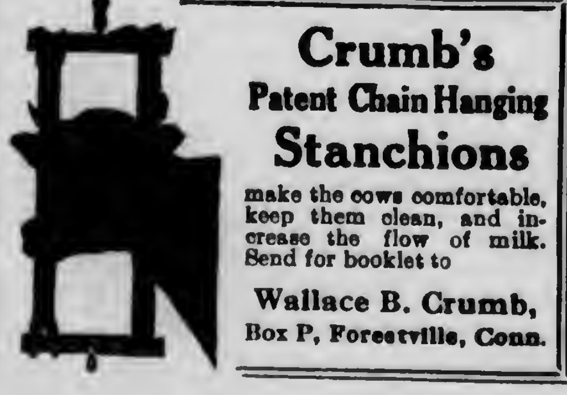
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Essentials in Co-operation

Co-operation a Measure of Civilization

Exactly because farming is first of all a distinct mode of life, and afterwards a business to maintain that mode of life, is co-operation so difficult among farmers. Men will pool their business interests whenever a business sense tells them there is profit in so doing; but pooling their families and homes is a different proposition, and the life and the business of farming are so closely interwoven that one usually implies the other.

Yet co-operation is the measure of civilization, grading all the way from the strict individualism of the primitive wild man to the rosiest dreams of the most impractical socialist. Our government is co-operative, our schools, our churches, all forms of community life. The essence of co-operation is the working together for a common purpose. We find it better to maintain a government and defray the cost by a levy of tax on each citizen than for each to defend his own life and property with the strength of his arm.

Co-operative business ventures in the more strict sense have been innumerable; mostly failures. But the fact that some have survived and prospered proves that others can. A study of the failures, the wrecks, will give us much help. Some of the record is published in government bulletins.

The chief cause of failure has been stock company organization, a vote for a share, as opposed to manhood organization, a vote for a man. The small farmer who pools his interest stakes what is as important to him as the big farmer's interest is to the big farmer. Then, too, on a share-voting basis the big holders run things for the little ones, often without their consent, and so kill personal interest—they are likely to buy in that stock, and so become a monopoly. One man, one vote, is the only safe basis for a lasting co-operative organization.

The next greatest item for success is a capable and honest executive—the manager. It is a fatal mistake to try saving at that point. Capable men may help organize a company from enthusiasm, but they will not consent to permanently run it for any such pay. The railroad that pays its president $100,000 a year does it not from sentiment but from cold business sense; because he earns it and more. Bid against the business world for the right man for the company and outbid the world. Don't try to economize on his salary. He is to get that salary to pay him for saving many times its cost for you from the people he sells to in your behalf.

There are few things in this world that a man can get out of as easily as he can get in. Co-operation is and ought to be like marriage and debt and army enlistment. One's freedom of choice is in deciding to go in or not. After one goes in he owes it to the others to stick. The draft of organization should keep this in mind and while making membership easy should be so shaped as to hold firmly to its list any that prove later to be malcontents. A common trick of the interest against which co-operation is attempted for relief is to offer to one or more of its leaders privately all and more than they ask for as an organization. To let them out is to wreck the association which won for them personally; to kick down the ladder by which they reached success.

One effective way to control this evil is to so frame the articles of agreement that the members shall buy or sell (according to the purpose of the association) only to the manager; and he in entirety to the rest of the world. This is the plan on which the successful organizations in the Hood River apple country work. The manager receives, grades and markets the entire crop. Each producer gets his share of the net returns according to the amount and quality of the apples he turns in. If a private offer be made to a member he should be required to turn it into the association, which will fill it and pay him a commission for the advantage he brought to it as a salesman.

Co-operative associations need only a moderate working capital, and this should be all paid in, in cash. With the manager under adequate bond — and this should never be neglected — it should be at his command at all times. If more money is needed it should be borrowed at legal interest, either at bank or from richer members who can afford to loan the funds. But it should be unmistakable that such money was a loan, not an investment, and that when the agreed interest was paid and the principal returned, its claim on the association was entirely cancelled. As it takes no risk of losses it is not entitled to any share of profits. It is for this reason that I advise going to bank; for the bank does business that way. If association notes are given to members it should be on exactly the same terms. Keep in mind all the time, and at every point, that it is not dollars that are co-operating, but men and their product. The men pool their business interest. The proceeds are divided according to the product turned in. Any money that is needed for carrying on the business is fully compensated when it draws legal interest.

What is written above is true, according to experience, of all co-operative undertakings whatsoever; and yet I am thinking of the milk-producers' association as an attempt of this kind now on trial. Efforts are being zealously made to find a chance to convict the milk producers of conspiracy in restraint of trade for all doing the same thing each by himself. How much such efforts can accomplish remains to be seen, but a chartered co-operative association which dealt with the market thru its management only, delivering milk on its order and looking to the association for its pay, would be entrenched within the laws beyond hope of attack. If such an association were formed along the lines indicated above as proved safe by experience, it would be a permanent factor of farm prosperity.

There are many difficulties connected with milk dealing not incident to some other forms of co-operative work; but none that are insuperable in the hands of a capable manager. In such hands milk can be made to sell for what it is worth in the market regardless of the cost of production as other commodities sell. Just now the city, which thinks it is fighting against farmer greed, is in reality bidding against grain crops for the use of the farmer's fields. Unless it bids high enough —and the call for grain is loud and insistent—grain will win. There never could be a better time to put milk production on a sound permanent co-operative business basis. And the danger is that because conditions are so favorable for present returns, the producers will neglect to make solid their permanent future. — Charles H. Darlington, Chester Co., Pa.

TIMELY CARE OF SILO

The wood stave silo is one part of the building equipment which must have attention at the proper time. The damp weather of the past two months may have caused the staves to buckle. Buckling can be prevented by loosening the hoops.

Dry weather will cause the staves to dry out. A great many silos have been either blown down or wrecked because the hoops were not tightened and the anchors fastened. Guy wires and anchor bolts should be examined and adjusted and the hoops tightened. It may be necessary to perform this operation two or three times during the summer.

To keep the walls of a stave silo from collapsing, a wooden hoop nailed at the top of the inside walls is recommended. This hoop may be made of three or more thicknesses of one-half inch by four-inch elm or white oak lumber. When the silo is filled in the fall, the staves absorb moisture and swell. Hoops should then be loosened to relieve unnecessary strain upon them.

The inside walls of the silo should be treated with a coat of linseed oil or creosote every year or two as needed. This renders the wood more durable. A coat of paint on the outside of the silo every two or three years not only protects the staves from decay, but improves the appearance. For information on silos and silo buildings, write dairy husbandry department, State College, Pa.

EXPERIMENT IN DEVELOPING HEIFERS

An experiment that is expected to prove of great value in the development of the dairy industry is being conducted at the Kansas agricultural college under the direction of O. E. Reed, professor of dairy husbandry. Its purpose is to determine the feeds that will tend towards the perfect physical development of heifers and the production of a maximum amount of milk at the lowest possible cost.

The experiment was started two years ago. Twenty-four grade Holstein heifers—all related—were fed on skim milk up to 6 months of age. Since that, six heifers have been fed on alfalfa hay and silage, and 12 on alfalfa hay, silage and grain. The heifers are bred to freshen at 30 months, with the exception of those in half the lot, which are fed grain as well as alfalfa hay and silage. These are bred to calf at two years. Professor Reed expects to find out whether or not cows getting the grain will develop sufficiently and give enough extra milk if allowed to calf six months earlier to pay for the extra feed they will receive. The experiment will be continued until the cows are 6 or 7 years old. By that time the department will have records on at least three milking periods.

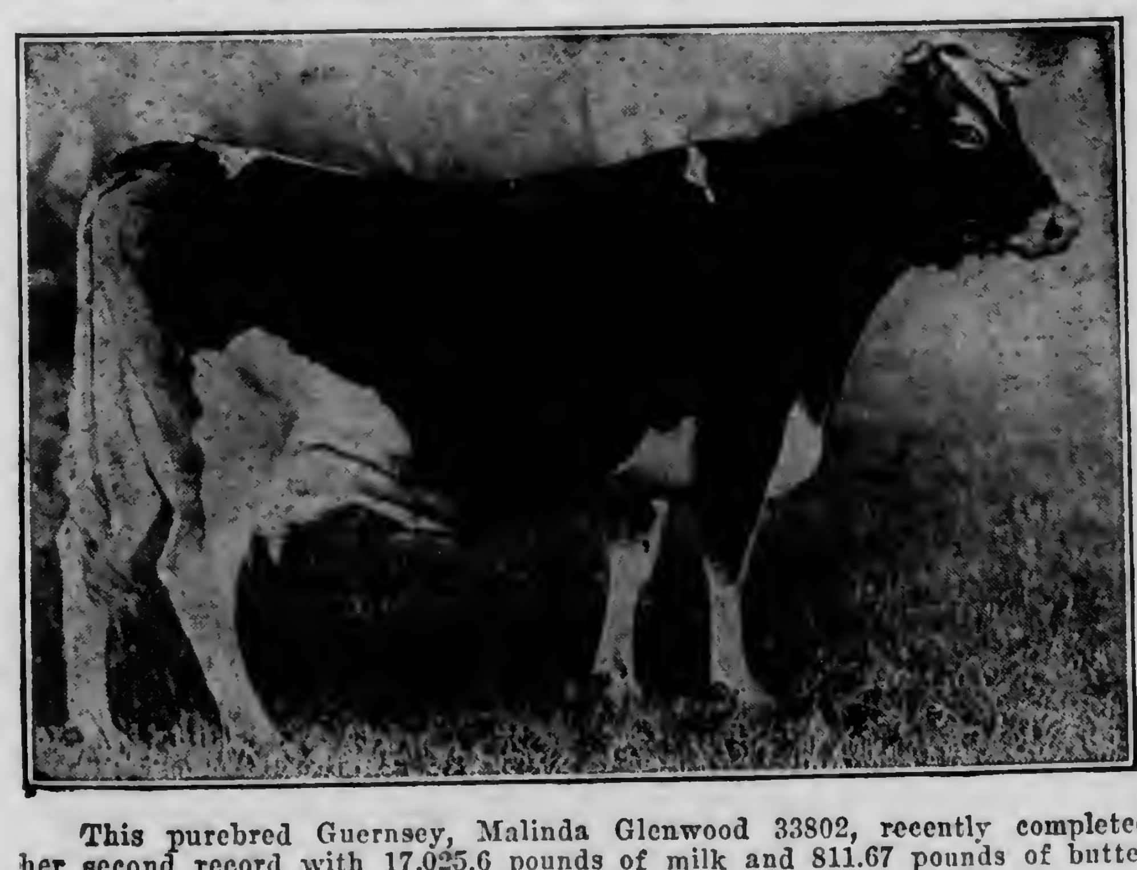
Two of the heifers have already freshened. One of these, which is fed on alfalfa hay alone, is giving 30 pounds of milk a day and producing it at a low cost. She is eating 40 to 45 pounds of hay a day. The ordinary amount consumed is 15 to 20 pounds a day. The other heifer that has freshened is fed alfalfa, silage and grain. It is producing 30 pounds of milk, eating 12 pounds of hay, 30 pounds of silage, and seven pounds of grain. The cattle in the experiment are weighed every month, and their measurements taken.

GRAIN FOR THE SKIM-MILK CALF

Calves are usually fed whole milk for two to three weeks, then gradually changed to skim-milk. About the time of changing, begin to feed a little grain but do not think that it is necessary to use oil meal or any other high-priced feed, high in protein, or fat, or both. Experience at the Missouri Experiment Station shows that a mixture of two parts corn and one part oats, by weight, gives as good results as oil meal and ready-mixed calf meals often purchased at much higher prices. Bran is not especially good for the young calf because it is too laxative. The grain mixture should be fed immediately after the milk, and neither should be fed too liberally or scours may result.—L. W. Wing, in Mo. Circular.

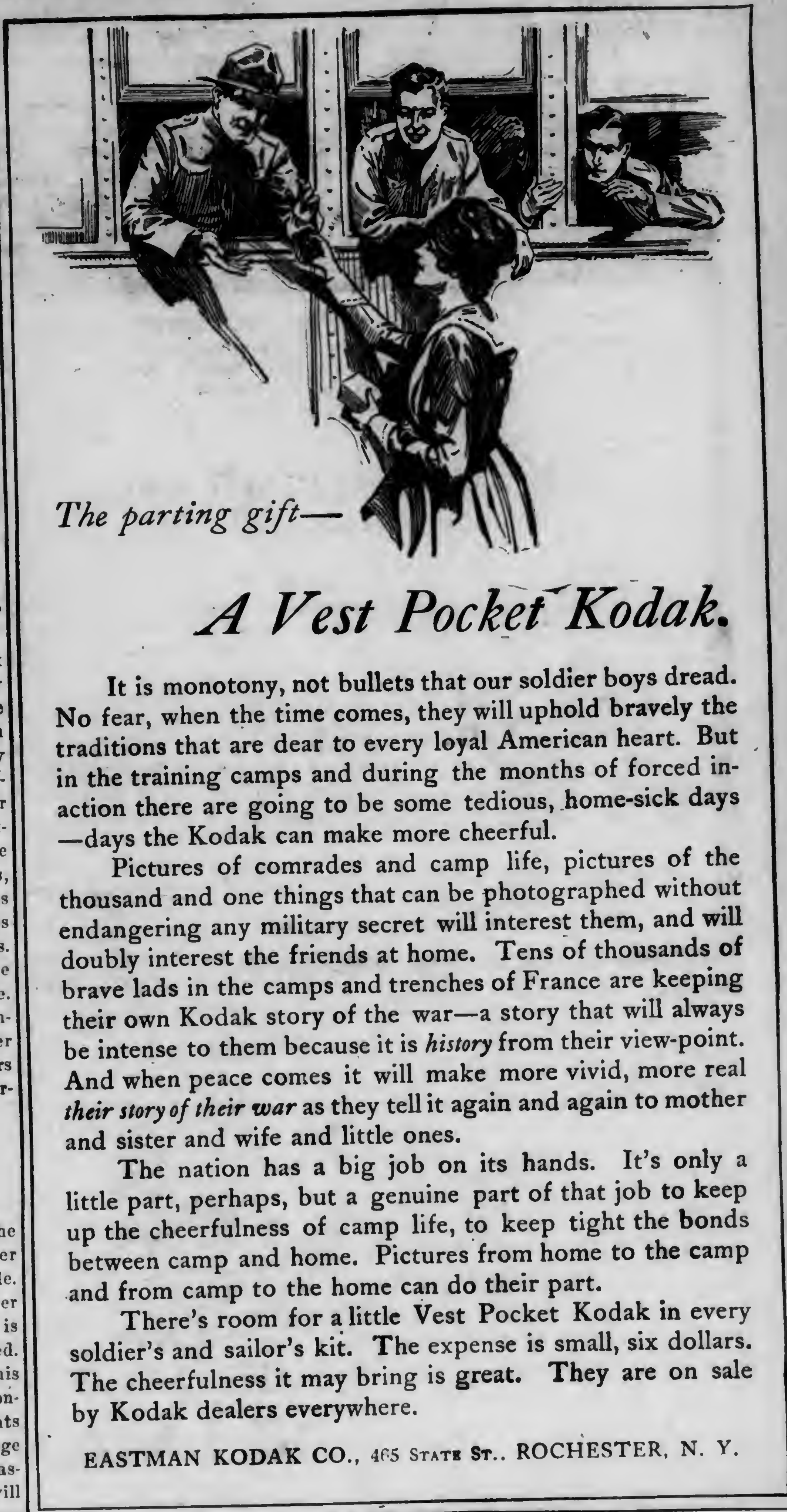
SWEET CLOVER FOR DAIRY CATTLE

Experiments by many farmers in the Middle West show that sweet clover is an excellent pasture for dairy cattle. When cows are turned on sweet clover from grass pastures, the flow of milk is increased and its quality improved. Other conditions being normal, this increase in milk production will continue thruout the summer as the plants produce an abundance of green forage during the hot, dry months. If pastures are handled properly, they will carry at least one milk cow to the acre during the summer months.—Department Letter.



This purebred Guernsey, Malinda Glenwood 33802, recently completed her second record with 17,025.6 pounds of milk and 811.67 pounds of butter fat, at eight years of age. A striking feature of her test, which was supervised by the Pennsylvania Experiment Station, was the uniformity in the amount of milk produced thruout the year. She never gave over 58 pounds a day and produced from 35 to 39 pounds per day during her last month. Her average daily milking for the year was 46.6 pounds.

Malinda Glenwood was bred by E. C. Anderson, of McKean Co., Pa., and purchased by Frank Thomson, Brookmead Farm, Chester Co., Pa.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It is monotony, not bullets that our soldier boys dread. No fear, when the time comes, they will uphold bravely the traditions that are dear to every loyal American heart. But in the training camps and during the months of forced inaction there are going to be some tedious, home-sick days —days the Kodak can make more cheerful.

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The nation has a big job on its hands. It's only a little part, perhaps, but a genuine part of that job to keep up the cheerfulness of camp life, to keep tight the bonds between camp and home. Pictures from home to the camp and from camp to the home can do their part.

There's room for a little Vest Pocket Kodak in every soldier's and sailor's kit. The expense is small, six dollars. The cheerfulness it may bring is great. They are on sale by Kodak dealers everywhere.

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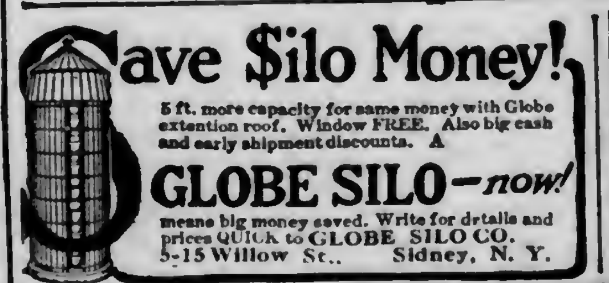
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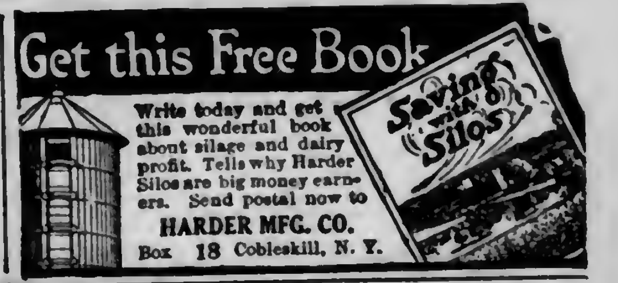
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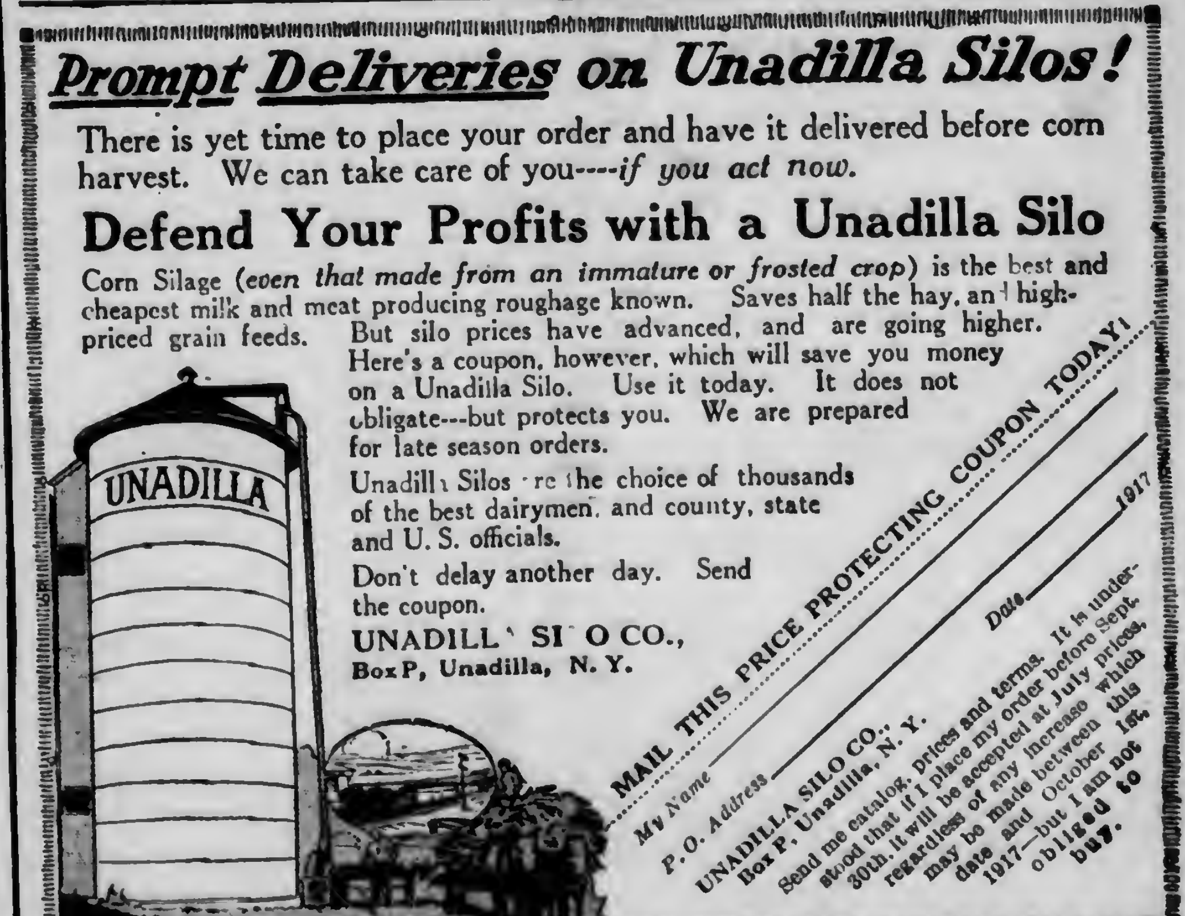
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There is yet time to place your order and have it delivered before corn harvest. We can take care of you----*if you act now.*

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Unadilla Silos are the choice of thousands of the best dairymen, and county, state and U. S. officials.

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Send me catalog, prices and terms. It is understood that if I place my order before Sept. 30th, it will be accepted at July prices, regardless of any increase which may be made between this date and October 1st, 1917—but I am not obliged to buy.

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Don't feed your cows on corn and oats and expect them to make a big profit for you. If the grain is home grown they may be earning money, but present prices make it more profitable for you to sell the grain. If we send our wheat to our allies in the war we shall need our corn crop ourselves. Sell your surplus grain and make money. Make more money on your milk, too! You keep cows for the money their milk will bring.

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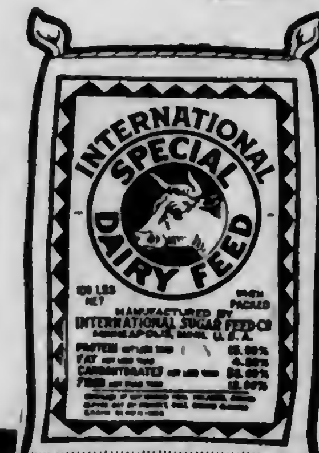
Minneapolis, Minn.
Mills at Minneapolis and Memphis



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Spray your animals with this fly preventive twice a day during the fly season and they will not be bothered with flies. They will work and milk better because their energy will not be wasted on the pesky flies.

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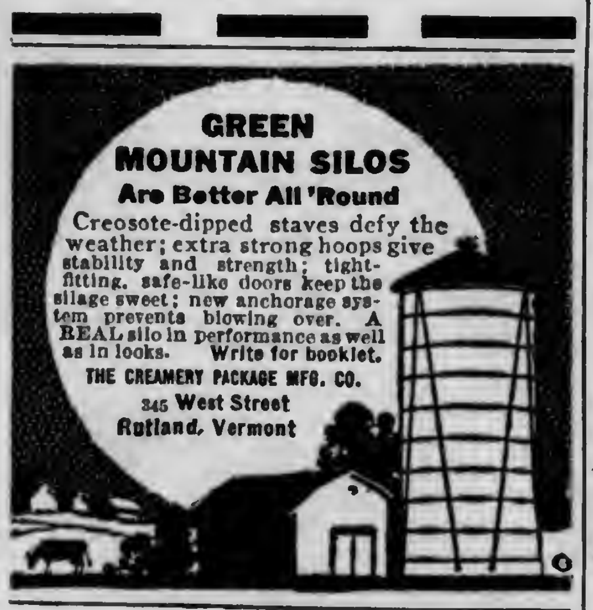

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WHETHER you are selling cream or making butter, if you have no separator, or are using an inferior or half-worn-out machine, you are wasting cream, time and labor every day you delay the purchase of a De Laval.

You can't afford to wait another week. It means too much loss with butter at its present high price, and the importance of saving time and labor. Let the De Laval start saving cream for you right now, and it will soon pay for itself.

See the nearest De Laval agent right away and let him show you what the De Laval will save for you. If you do not know the De Laval agent, write direct for any desired information.

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make the cows comfortable, keep them clean, and increase the flow of milk. Send for booklet to

Wallace B. Crumb,
Box P, Forestville, Conn.

Essentials in Co-operation

Co-operation a Measure of Civilization

Exactly because farming is first of all a distinct mode of life, and afterwards a business to maintain that mode of life, is co-operation so difficult among farmers. Men will pool their business interests whenever a business sense tells them there is profit in so doing; but pooling their families and homes is a different proposition, and the life and the business of farming are so closely interwoven that one usually implies the other.

Yet co-operation is the measure of civilization, grading all the way from the strict individualism of the primitive wild man to the rosiest dreams of the most impractical socialist. Our government is co-operative, our schools, our churches, all forms of community life. The essence of co-operation is the working together for a common purpose. We find it better to maintain a government and defray the cost by a levy of tax on each citizen than for each to defend his own life and property with the strength of his arm.

Co-operative business ventures in the more strict sense have been innumerable; mostly failures. But the fact that some have survived and prospered proves that others can. A study of the failures, the wrecks, will give us much help. Some of the record is published in government bulletins.

The chief cause of failure has been stock company organization, a vote for a share, as opposed to manhood organization, a vote for a man. The small farmer who pools his interest stakes what is as important to him as the big farmer's interest is to the big farmer. Then, too, on a share-voting basis the big holders run things for the little ones, often without their consent, and so kill personal interest—they are likely to buy in that stock, and so become a monopoly. One man, one vote, is the only safe basis for a lasting co-operative organization.

The next greatest item for success is a capable and honest executive—the manager. It is a fatal mistake to try saving at that point. Capable men may help organize a company from enthusiasm, but they will not consent to permanently run it for any such pay. The railroad that pays its president $100,000 a year does it not from sentiment but from cold business sense; because he earns it and more. Bid against the business world for the right man for the company and outbid the world. Don't try to economize on his salary. He is to get that salary to pay him for saving many times its cost for you from the people he sells to in your behalf.

There are few things in this world that a man can get out of as easily as he can get in. Co-operation is and ought to be like marriage and debt and army enlistment. One's freedom of choice is in deciding to go in or not. After one goes in he owes it to the others to stick. The draft of organization should keep this in mind and while making membership easy should be so shaped as to hold firmly to its list any that prove later to be malcontents. A common trick of the interest against which co-operation is attempted for relief is to offer to one or more of its leaders privately all and more than they ask for as an organization. To let them out is to wreck the association which won for them personally; to kick down the ladder by which they reached success.

One effective way to control this evil is to so frame the articles of agreement that the members shall buy or sell (according to the purpose of the association) only to the manager; and he in entirety to the rest of the world. This is the plan on which the successful organizations in the Hood River apple country work. The manager receives, grades and markets the entire crop. Each producer gets his share of the net returns according to the amount and quality of the apples he turns in. If a private offer be made to a member he should be required to turn it into the association, which will fill it and pay him a commission for the advantage he brought to it as a salesman.

Co-operative associations need only a moderate working capital, and this should be all paid in, in cash. With the manager under adequate bond — and this should never be neglected — it should be at his command at all times. If more money is needed it should be borrowed at legal interest, either at bank or from richer members who can afford to loan the funds. But it should be unmistakable that such money was a loan, not an investment, and that when the agreed interest was paid and the principal returned, its claim on the association was entirely cancelled. As it takes no risk of losses it is not entitled to any share of profits. It is for this reason that I advise going to bank; for the bank does business that way. If association notes are given to members it should be on exactly the same terms. Keep in mind all the time, and at every point, that it is not dollars that are co-operating, but men and their product. The men pool their business interest. The proceeds are divided according to the product turned in. Any money that is needed for carrying on the business is fully compensated when it draws legal interest.

What is written above is true, according to experience, of all co-operative undertakings whatsoever; and yet I am thinking of the milk-producers' association as an attempt of this kind now on trial. Efforts are being zealously made to find a chance to convict the milk producers of conspiracy in restraint of trade for all doing the same thing each by himself. How much such efforts can accomplish remains to be seen, but a chartered co-operative association which dealt with the market thru its management only, delivering milk on its order and looking to the association for its pay, would be entrenched within the laws beyond hope of attack. If such an association were formed along the lines indicated above as proved safe by experience, it would be a permanent factor of farm prosperity.

There are many difficulties connected with milk dealing not incident to some other forms of co-operative work; but none that are insuperable in the hands of a capable manager. In such hands milk can be made to sell for what it is worth in the market regardless of the cost of production as other commodities sell. Just now the city, which thinks it is fighting against farmer greed, is in reality bidding against grain crops for the use of the farmer's fields. Unless it bids high enough—and the call for grain is loud and insistent—grain will win. There never could be a better time to put milk production on a sound permanent co-operative business basis. And the danger is that because conditions are so favorable for present returns, the producers will neglect to make solid their permanent future. — Charles H. Darlington, Chester Co., Pa.

TIMELY CARE OF SILO

The wood stave silo is one part of the building equipment which must have attention at the proper time. The damp weather of the past two months may have caused the staves to buckle. Buckling can be prevented by loosening the hoops.

Dry weather will cause the staves to dry out. A great many silos have been either blown down or wrecked because the hoops were not tightened and the anchors fastened. Guy wires and anchor bolts should be examined and adjusted and the hoops tightened. It may be necessary to perform this operation two or three times during the summer.

To keep the walls of a stave silo from collapsing, a wooden hoop nailed at the top of the inside walls is recommended. This hoop may be made of three or more thicknesses of one-half inch by four-inch elm or white oak lumber. When the silo is filled in the fall, the staves absorb moisture and swell. Hoops should then be loosened to relieve unnecessary strain upon them.

The inside walls of the silo should be treated with a coat of linseed oil or creosote every year or two as needed. This renders the wood more durable. A coat of paint on the outside of the silo every two or three years not only protects the staves from decay, but improves the appearance. For information on silos and silo buildings, write dairy husbandry department, State College, Pa.

EXPERIMENT IN DEVELOPING HEIFERS

An experiment that is expected to prove of great value in the development of the dairy industry is being conducted at the Kansas agricultural college under the direction of O. E. Reed, professor of dairy husbandry. Its purpose is to determine the feeds that will tend towards the perfect physical development of heifers and the production of a maximum amount of milk at the lowest possible cost.

The experiment was started two years ago. Twenty-four grade Holstein heifers—all related—were fed on skim milk up to 6 months of age. Since that, six heifers have been fed on alfalfa hay and silage, and 12 on alfalfa hay, silage and grain. The heifers are bred to freshen at 30 months, with the exception of those in half the lot, which are fed grain as well as alfalfa hay and silage. These are bred to calf at two years. Professor Reed expects to find out whether or not cows getting the grain will develop sufficiently and give enough extra milk if allowed to calf six months earlier to pay for the extra feed they will receive. The experiment will be continued until the cows are 6 or 7 years old. By that time the department will have records on at least three milking periods.

Two of the heifers have already freshened. One of these, which is fed on alfalfa hay alone, is giving 30 pounds of milk a day and producing it at a low cost. She is eating 40 to 45 pounds of hay a day. The ordinary amount consumed is 15 to 20 pounds a day. The other heifer that has freshened is fed alfalfa, silage and grain. It is producing 30 pounds of milk, eating 12 pounds of hay, 30 pounds of silage, and seven pounds of grain. The cattle in the experiment are weighed every month, and their measurements taken.

GRAIN FOR THE SKIM-MILK CALF

Calves are usually fed whole milk for two to three weeks, then gradually changed to skim-milk. About the time of changing, begin to feed a little grain but do not think that it is necessary to use oil meal or any other high-priced feed, high in protein, or fat, or both. Experience at the Missouri Experiment Station shows that a mixture of two parts corn and one part oats, by weight, gives as good results as oil meal and ready-mixed calf meals often purchased at much higher prices. Bran is not especially good for the young calf because it is too laxative. The grain mixture should be fed immediately after the milk, and neither should be fed too liberally or scours may result.—L. W. Wing, in Mo. Circular.

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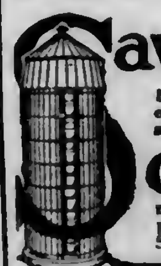

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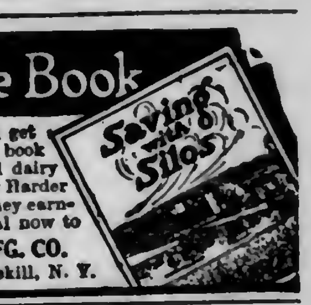

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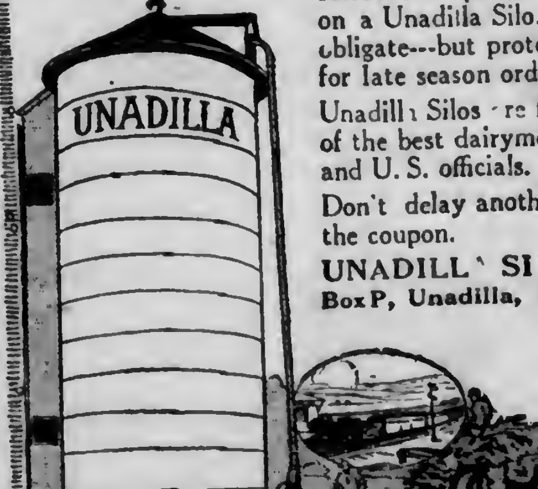

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Pennsylvania Farmer

Established 1880. Published Every Saturday.
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PHILADELPHIA, PA., AUGUST 4, 1917.

$10,000,000,000

We are dealing now with two extremes. At the one end we are concerned about economy; about saving every berry, every potato, every cabbage. At the other, we talk in terms of billions of dollars. The one must make up the other. It is estimated that the national budget for the year ending June 30, 1918 may amount to ten billion dollars.

How much is $10,000,000,000? Nobody knows. Nobody ever saw so much money. It is three times as much money as is in circulation in the United States. If it were all in silver dollars it would load to capacity 6,660 big coal cars, which placed close together would make a string 55 miles long, or would make 166 trains of 40 cars each. It is three times the amount of wages and salaries paid in manufacturing in this country. It is twice the farm value of all that the farms of the United States produce in a year. The amount is so far beyond the comprehension of the average man that he is saying but little about it. Yet he should take a lively interest in the raising and spending of it, as he will have it to earn in the years to come. If the war is still raging a year from now we may be talking of 20 billions. It is time people were beginning to realize what is ahead. There is still too much superficial thinking and talking. It will require more than talk and display of flags and bunting to win out; and it is up to the man in the street, in the shop and in the field to supply the brain, brawn and money for the task. We do not wish to be pessimistic, neither do we wish to wake up in a fools' paradise.

* * *

GRADING MILK

The problem of standardizing food products is working itself out slowly but constantly. Standardization is urged as a necessity in market reform, but it is difficult for the producer to see the necessity of it until the market pays a price on the graded or standardized product. This is what is occurring. Under organized system of marketing milk, the price is now based upon the butterfat content. In the Inter-State Milk Producers' Association schedule, 4 percent milk is worth 35 cents per hundred pounds more than 3 percent milk, and milk testing 5 percent is worth 70 cents more per hundred pounds than 3 percent milk. This presents a condition in milk production to which all dairymen must give greater consideration in the future. There can be little doubt that the change is permanent. Milk will continue to sell upon grade in the future and dairymen must prepare to accept the fact to their own advantage.

Paying for butterfat will increase the importance of breeding. There are breeds of cows that produce a sufficient quantity of low-testing milk to make them profitable even on a butterfat basis of selling, but progressive breeders are showing that even cows of these breeds may be developed to increase the butterfat content with little or no decrease in quantity. Upon the new basis, both quality and quantity of milk must be given consideration in breeding. It is pretty well established that feeding alone will hot affect the butterfat test appreciably. This must come from breeding, and with a market paying a premium upon quality, there is little doubt but that higher quality will result.

* * *

VEAL CALVES

There has been much nonsensical agitation of doing away with veal and lamb to conserve food supplies. Much that is advocated is wholly impractical, as every farmer and every one familiar with farm practice knows. The fact that most of the calves now used for veal are fit only for veal is sufficient to defeat this theory of conservation. Such calves would make neither good beef nor dairy producers, and it would be an economic loss to keep them. But the farmers can improve the quality of their veal calves with profit to themselves and at the same time increase the supply of meats. Many dairymen depend entirely on purchased cows to keep up their dairy herds. The wisdom of this policy is well questioned, but the practice continues. Such dairymen have no use for calves except as the breeding of their cows is necessary to keep them in milk. These calves are not even regarded as a by-product. They are disposed of as "monkeys" or fed for a few weeks to be sold as veal of indifferent quality at little or no profit. Where this practice is followed and where dairymen have cows that they do not care to raise producers from, it would be much more profitable to breed to beef-bred bulls. The resulting calf is more likely to make a veal worth caring for, and as he will be vealed anyway, the increased profits on the crop of calves will more than pay the extra cost of the bull. This does not apply to the dairymen who are breeding up their herds and raising heifer calves to take the place of the cows dropping out. But there are enough dairymen in the East who never raise their calves to make the effort at improving veals a considerable factor.

* * *

DRYING FOODS

There is a general campaign to induce housewives to can, preserve, pickle and dry fruits and vegetables for winter use. All will agree with the wisdom of the plan to conserve food products in time of plenty for use during the period of non-production. This is merely good sense and good management. It is needed more this year than in normal times, but it is good economy at all times. As such, canning and preserving is generally practiced by farm women, and has been for years. Such women, who have a rather constant supply of canned goods on their shelves, will not find it profitable to greatly increase their supply this year. Unless a certain market can be provided for her surplus of canned goods, the average farm woman will find little inducement to buy cans, either glass or tin, to put up more than the usual amount of fruit and vegetables. But there may well be a large increase in the quantity and variety of dried or exaporated products. Dig up some of the forgotten directions for drying corn, beans, peas, cherries, berries, apples and peaches. The farm table lost rich, wholesome and palatable articles of food when the art of drying these commodities was lost. The process of drying is cheap and simple. The Department of Agriculture, Washington, D. C., or the domestic science department of your state agricultural college will supply you with free bulletins giving complete directions if you write for them. There will be no expense for cans or other containers. Tight boxes or paper sacks will do for storage. And you will have products that will keep as well and in many cases are far superior in quality and palatability than the canned goods. There will also be a better opportunity to dispose of good home-dried products. The markets are not so well supplied with foods in this form, and there will not be as much competition. When the consumers once get a taste and develop an appetite for dried foods there is certain to be a constant demand. Keep up your supply of canned goods, but expand on the supply of dried foods would seem to be good advice for our farm women this year.

* * *

TWO-DOLLAR WHEAT

The fact that the Senate has proposed an amendment to the food bill naming two dollars per bushel as the minimum price to farmers for wheat has aroused a cry of opposition in many quarters. Without arguing for it, we do challenge the arguments against it, as found in the average city paper. One of these has the following in an editorial opposing the proposition:

> "Once the wheat-grower thought that his sun of prosperity was in perigee and he in the midsummer of its rays, when the dollar sign went again upon the Board, but this was before the days of war and war brides in the stock market and fortunes in the munition plants. Now it is two-dollar wheat or nothing.
>
> "Of course the nation must have wheat for its flour and bread. And while the Government can commandeer a munition factory, or a steel plant, or a copper or a coal mine, and compel maximum production at a price arbitrarily fixed, it is an entirely different sort of a matter to commandeer the wheat fields of the country and force production at a reasonable price.
>
> "Therefore, the farmer is superman, and the Government must do his bidding. But the explanation hardly does credit to farmer patriotism if it really means that the growers of wheat need to be subsidized in order that they shall do their patriotic duty."

We will pass by the slur at the patriotism of the American farmer and consider only the economics of the question. In the first place, the writer overlooks the fact that, because of contemporary conditions such as cost of labor, machinery, fertilizer, taxes, etc., the price of two dollars per bushel is little better than one dollar was a short time ago. But it is when they compare the farmer's price with the conditions surrounding manufacturing and other business that the critics show their lack of knowledge, if not of fairness.

While few if any business have as yet been commandeered by the government, the talk relative to such action and the assent expressed by the public indicates that we may conclude that the terms upon which such authority would be exercised would be cost plus ten percent. Now, let us see how the same rule—cost plus ten percent—will work out for the farmer in raising wheat at a minimum price of two dollars per bushel. We naturally must take the average yield for the country over a number of years, which, we find, is about 14 bushels per acre. This at two dollars per bushel will bring a gross return of $28 per acre.

The cost of producing an acre of wheat and making it ready for market will, on the average, run about as follows: Plowing, $2.50; harrowing and rolling, $1.50; fertilizing, $2; seed and seeding, $4; harvesting, $3; threshing, $2 (this to include hauling and storing the grain); use of land, including taxes, depreciation, etc., $10. Total, $25. Add to this the ten percent as proposed for profit in other business and we have a grand total of $27.50 per acre. Not much of a margin here to call subsidy.

There are those who will probably dispute the justice of taking the average yield of 14 bushels per acre and claim that the better yields of the best land should be taken. It is usual for office experts to say, after figuring, that it is easily possible to greatly increase this average yield and thus lower the cost per acre. But we are dealing with facts as they exist, not with theories. Any material increase in yield at present must necessarily bear a corresponding increase in cost, hence will not materially change the figures.

It ought not to be necessary to continually spend time and energy demanding or defending just prices for the farmer; yet, so indifferent and ignorant is a large part of our population as to what is just and fair that it is necessary to force and defend every inch of progress made in the advancement of agriculture, if we are to maintain it on a stable basis.

REDUCTION IN MILK FREIGHT RATES

A reduction in freight rates on milk for Philadelphia and other points has been ordered by the Interstate Commerce Commission. The new rates are to be effective on or before October 1, 1917. A more extended account will be published next week.

The following schedule gives the rates ordered by the commission, which the carriers are not to exceed:

Miles	40-qt. can
10 or under	15.5
Over 10, but not over 20	16.5
Over 20, but not over 30	17.5
Over 30, but not over 40	18.5
Over 40, but not over 50	19.4
Over 50, but not over 60	20.3
Over 60, but not over 70	21.1
Over 70, but not over 80	21.9
Over 80, but not over 90	22.7
Over 90, but not over 100	23.4

HARRISBURG NOTES

Legislative Crop. — The legislative harvest ended two days ago when the Governor finished acting on the 696 bills left with him. There is a crop of 426 new general laws with 419 carrying appropriations and 198 bills which show marks of the veto. The output of new legislation is not less than in former years in spite of all the fuss made about it, altho the record made in codification and simplification is highly creditable. The state administration got comparatively little that it wanted and can not take all of the credit for the codes. The enactment of the borough code and the compensation code in 1915 was followed by the passage and approval this year of the decedents', township, dog license, game and fish codes with a number of other laws. The thirty-day period for acting on legislation after the lawmakers go home was marked by a display of factional and guerrilla warfare as much as during the session.

Agricultural Laws. — The governor was very general in his recommendations as to agricultural advancement and the record of achievement in that respect is not very extensive. The bureau of markets was created and an emergency fund provided, the value of which will depend upon the way they are handled; the orchard inspection and other work were continued; farmers' institutes almost swamped in factionalism and the farm counsellor service cut off, only to be restored by use of defense funds. The iniatitive displayed by the Department of Agriculture in getting seeds and in other lines did not command much legislative support because of feeling in the general assembly toward the administration. Workmen's compensation was not extended to agriculture; the Agricultural commission stays unchanged and State College's appropriation was cut. The governor declared at the opening of the general assembly in January: "We must double the output of the farms of Pennsylvania. There is too much waste on farms." The output of executive proclamations was quadrupled and the waste of time and energy and money because of factional warfare on Capitol Hill was prodigious.

Bureau of Markets.—The division of markets recommende dby the governor in his message was created and an appropriation of $25,000 instead of $60,000 granted. Secretary of Agriculture Patton had the plans for the bureau worked out months ago and when he named E. B. Dorsett as chief, at $4,000 a year, and J. Wallace Hallowell, Jr., of Philadelphia, as assistant, at $1,800, all was ready to start. The Bureau will work with the bureau of statistics, which has been making good in the opinion of many. Mr. Dorsett had charge of leeures on co-operaion, grading and the like on farmers' institute platforms and has been acting in a similar capacity on the farm advisors' corps. He has organized a number of organizations. The first work of the new bureau willl be to look after the fruit crop, which will be some test for it.

The Commission.—The State Commission of Agriculture, which the governor said in vetoing the bill to give its members salaries, has worked well in the main, has not met for a couple of months and there are reports that some of the members do not care whether it ever meets. The Secretary of Agriculture named the director of markets without calling together the commission altho the act says that the selection should be made with approval of the governor and commission. For some time it has been reported that some of the commissioners would retire.

The Appropriations.—The governor reduced appropriations of $87,164,430.95 to $81,223,536.84. The revenue in sight is $82,000,000. Hospitals and homes get over $6,000,000, which more than two years ago, on the ground that food and supplies have gone up. Nothing is said about more local support. In the list there are provided these agricultural appropriations in addition to what is carried in the general appropriation bill: Bureau of Markets, $25,000; emergency fund, $25,000; aid for agricultural exhibitions, $100,000; deficiency for same purpose, $50,000; foot and mouth disease claims, $12,000. Roads and schools are provided as outlined a week ago. State College was cut from $1,525,000 to $1,275,000 on the ground of insufficient revenue when there are a number of salary raisers bearing the governor's name. The University of Pennsylvania gets $850,000, a cut of $150,000, and other colleges are also cut. Commissions to investigate penal laws, old age pensions, insurance laws, banking laws, old laws mortgage recording systems and divers other things are also provided for, each with an appropriation and the members to be named by the governor.

Highway Tangle.—Highway Commissioner Black has announced that he does not propose to give counties more than their share of state road money in spite of offers to match state expenditures up to a million as made by Cambria Countians a few days ago. This is said to be a point on which he and the governor differ and on which the governor and some highway department men are endeavoring to quiet newspaper sand to soft pedal talkers. Mr. Black says to give some wealthy county a big chunk of money because it can match the state on a "fifty-fifty" basis is unjust. He is rather disposed to stick to the position despite gubernatorial censorships. The commissioner is also working to bring about freeing of toll roads and the next move may be in Lancaster County where the commissioners have offered to bear half the expense.

State to Pay.—The State Highway Department is sending to the state treasurer papers for payment of $929,335.20 on the state's long overdue bills to the townships for dirt road aid. Under the plan $727,375.34 will be paid for 1910 and $201,959.86 for 1912. Next year $944,135.20 will be paid for 19111. The state owes $1,142,049.38 in addition to all this money due townships and the next legislature will have to provide the cash. Payments under the dirt road act were suspended in 1915 until the treasury caught up.—Hamilton, Harrisburg, July 30.

NEW YORK NOTES

Troubles With Pests.—Potato blight has begun its work on Long Island. Growers have feared this as the result of the long continued rains. A plague of green lice has also appeared in that section on tomatoes and potatoes, in unprecedented numbers. Tobacco extract is used as a spray for these, but the rains have interfered with its efficiency.

State Fair Plans.—Plans for the biggest exposition in the history of the commission are completed. The troops will vacate the grounds Aug. 20, remaining away four weeks excepting for special work at the fair. Monday, Sept. 10, will be Red Cross day; Tuesday, Military day; Wednesday, Grangers' day; Thursday, Governors' day; Friday, Food Conservation day. The program shows many changes in the usual routine, which are typical of the various lines of work to be done. Special attention will be given to food conservation, educational, agricultural and domestic science work. It is hoped that the grand stand may be in its permanent location by the end of next week.

To Cut Out Mail Routes.—Inspectors will soon be sent over the state to decide which mail routes have the poorest roads, such to be discarded, as a matter of public economy.

The Wheat Campaign.—The Dairymens' League approves the increase of acreage in wheat in this state, even to the plowing up of a certain amount of hay lands. F. H. Thomson, one of the Vice Presidents of the League points to the fact that hay is practically the only farm product to show a decrease in value of 30 percent in this year of high prices, and argues that with a careful readjustment of crop rotations an increase in both wheat and rye will directly benefit dairying even from some old meadows are sacrificed, as the growing of more of these grains in this state will give us more wheat products for dairying consumption near at home, besides filling a patriotic duty.

Finley in France.—Dr. John H. Finley, President of the New York State Educational Department has returned from a two-months study of the effect of war on the French school system. In his report to the Regents Dr. Finley says that nowhere has France departed from the high ideals set for the education of her children in times of peace, altho schoolrooms have been used for wounded soldiers, and economies have had to be made everywhere. He warns us against exhaustion of our technical skill, in letting too many college men go to the front, as was done in France, and advises immediate teaching of French in our upper schools and colleges as a military help and later as a help in co-operation with France commercially.

Early Operation of Barge Canal. — Measures to bring the barge canal into operation at the earliest date will be considered Aug. 1, at a convention called for the purpose in Albany. It is now complete to Lake Ontario by way of Oswego, and is open to traffic. Navigation on the Erie Canal is also open for the old type boats of 240 tons, and the state engineer has given assurance that the barge canal thru to Lake Erie will be open in May 1918, for the large 2,000 ton barges.

Ecitement Over Draft. — This week has perhaps seen the greatest public interest since the Civil War, as the results of the draft have been watched with great anxiety by all classes. The farmers' toll has been a heavy one and they wonder what the effect is to be on agriculture if active young farmers are to be called with help already so scarce on the farms. Thousands of acres of crops already in will have to be sacrificed by the going of farm hands alone, to say nothing of farm owners laying aside their wrok.—F.

NEW JERSEY NOTES

Market Reforms.—Food prices to the consumer will not begin to lower and consumption of perishable products will not be as great as they should be until consumers buy in larger quantities for cash and make unnnecessary our present system of so-called free delivery. This is the declaration of secretary of Agriculture Agee. It was brought out as a reply to a prominent magazine editor who commented on the fact that strawberries were going to waste in South Jersey and that there is a glnt of peas, spinach, lettuce and berries in the truck patches of this section. He also told of similar conditions in New York State. As an instance, he declared spinach to be selling at 10 cents a barrel at Albany and at $2 a barrel in New York City, 140 miles away.

Retail Prices.—The third weekly report on prices of certain farm products wholesale and retail, as compiled by the Department of Agriculture, show trifling decreases in farm and wholesale prices. Retailers, however, continued to exact a high percentage of profit. while the retail price of blackberries showed an increase of from 30 to 65 percent over the wholesale price, the retail price of cabbage showed an increase over the wholesale price running from 80 percent in Trenton and New Brunswick to 400 percent over the wholesale city price and 900 percent over the farm price in Woodbury. On new potatoes the percentage of profit demanded was somewhat lower than last week, running at 40 percent in Newark, Freehold, Mt. Holly and Bridgeton; 45 percent in New York and Jersey City; 55 percent in Philadelphia; 65 in Paterson, Hackensack and New Brunswick; 80 in Trenton and 108 in Woodbury. Tomato prices showed a wide fluctuation, bringing as high as 235 percent profit in Newark. There the wholesale price was 3 cents a quart and the retail figure 10 cents. Bridgeton people bought them for half this amount, while the farm and wholesale prices in other South Jersey cities was 2½ cents a quart, or only a half a cent under the wholesale price in the biggest city in the state. The situation has centered attention upon the retailers and they are protecting their position by blaming the high cost of delivery and other unusual expenses.

Shipping Problem.—The blame for the shipping situation in the South Jersey tomato district has been placed upon the shippers themselves by Pennsylvania Railroad officials. The superintendent said there were plenty of box cars to meet the demands of the tomato shippers if they could "or would" load in that class of cars. It was reported from Salem County that from $15,000 to $20,000 a day were being lost by the growers every time the railroad facilities were insufficient, particularly with regard to the lack of refrigerator cars.

Annual Diseases. — Four cases of glanders and one of anthrax, the first in over two years, were discovered among farm animals in New Jersey during the month of June. Forty-eight horses were suspected of having glanders, but when given the ophthalmic mallien test only four were actually found infected These were killed at the owners' expense, the state not allowing compensation for animals killed on account of glanders. A total of 1,339 cattle were brought into the state during June. Of the total, 577 had been previously tested for tuberculosis and the remaining 762 were tested. Out of this number 42 were found to be tubercular and were ordered to be slaughtered. —L

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FARM MEETING CALENDAR

New York Fruit Growers' Association, Oswego, N. Y., August 7-11.

New Jersey Horticultural Society, Bridgeton, N. J., August 8.

Alcyon Park Grange Picnic, Pitman, N. J., August 8-10.

Cecil County Farmers' D[illegible] Port Deposit, Md., August 18.

Society of American Florists, New York City, August 21-23.

Farmers' Field Day, N. J. Experiment Station, New Brunswick, N. J., September 6.

Solebury Farmers' Exhibit, Solebury, Pa., September 7-8.

New York State Fair, Syracuse, N. Y., September 10-15.

Inter-State Fair, Trenton, N. J., September 24-28.

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Here's a good thing to do: Provide a wallow close to the feeding grounds to which add Dr. Hess Dip and Disinfectant. As the hogs pass back and forth from the wallow to the feed trough, the **DIP** will kill the lice and cleanse the skin, while the **DRIP** will destroy the disease germs and the worms that pollute the ground. That will mean a clean, healthy skin, freedom from lice, a safeguard against disease and larger, better porkers.

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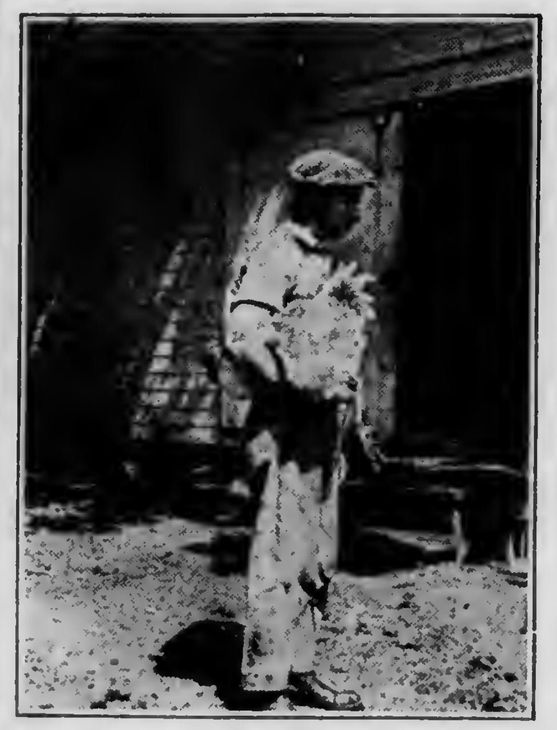
Poultry

HOLDING THE FOWL

A great many poultry raisers I have watched handle their fowls go about it in an awkward and unthinking manner. They grab the fowl any old way and then because the bird in its struggles to get away scratches them with its wings or claws, they lose their temper and misuse the bird. I must say this is more often the case with the amateur and would-be poultryman than with the professional.

The two pictures show convenient and reasonable safety grips for holding a fowl. Number one shows what is considered to be the proper manner of holding a bird for carrying. The wings are held under the right arm while the bird's legs are held with the right hand. In gripping the legs, one finger is placed between the legs slightly above the knees, while the thumb and other fingers hold the legs tight. A bird held in this manner can not scratch or flap the poultryman or harm itself.



CORRECT WAY TO CARRY A BIRD.

The second picture shows one of the best ways to catch and hold a bird in transferring from crate to house or any place where the bird is caught and held for a short time for examination or transfer. The bird is simply caught by the wings at the shoulder, one finger being placed between the shoulders so the wings will not be bent too far back. In catching birds in a crate this is the very best manner, because the fowl can be removed with ease and without struggle. In catching birds in the houses it is also the easiest as the fowl can be very quickly caught in the manner shown, either in a forward or backward position even tho running about the pen. The main point of the grip is that the bird cannot struggle and hurt itself nor jar the poultryman's temper.

To some, this grip may appear harmful to the bird, but I can say from experience that it does not hurt the bird. In handling thousands of fowls yearly we never think of catching them in any other way and we have never had a dislocated wing or hurt bird from this in all our flocks.—J. Raymond Kessler, Chester Co., Pa.

COLONY COOP VENTILATION

Most poultrymen find difficulty in keeping the colony coops, containing the young stock on range, cool and well ventilated during the hot nights of summer. Houses that work very well in the spring become suffocating when the depressing nights of summer arrive. Not only the outside temperature makes it hot, but the birds themselves are growing larger and developing more animal heat within the coop.

One poultry farm I know of has overcome the difficulty by making the roof of the colony coops in the form of a lid that can be raised several inches above the walls of the coop to let the hot air escape. The roof is simply made to lay on top of the walls, having strips placed around all four edges inside so they will fit snugly inside of the walls when the roof is shut down tight. The coops mentioned are eight feet square.

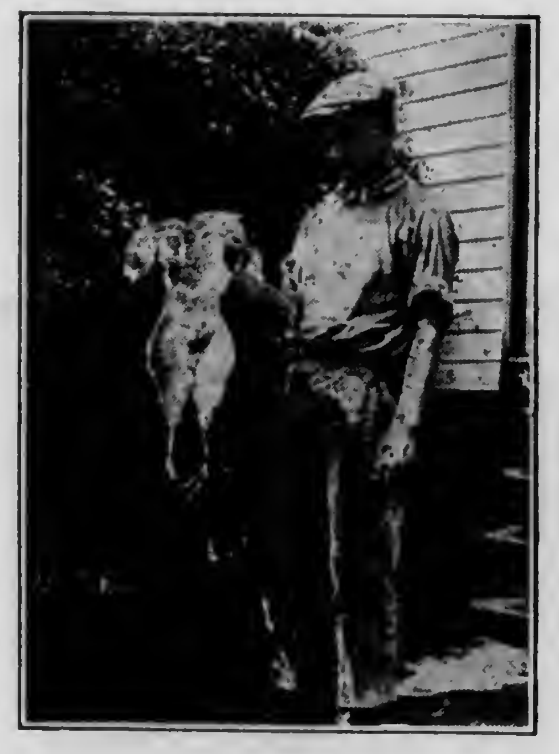
The arrangement for raising and securing the roof consists of four extra-heavy 12-inch angle irons placed at each corner of the roof on the inside of the roof with the one angle bolted securely to the roof. The irons are so fastened that the other angle will press against the side wall of the coop. This part of the iron has three holes bored at two-inch intervals to allow a bolt to pass thru from the side wall.

When the roof is down tight, the wall bolt is passed thru the upper hole and a nut run up on it to hold the roof securely. When the second hole is used, a two-inch space is open around the top of the coop, and the third hole gives a four-inch space. At whatever hight the roof is raised, the bolts have to be run thru the side wall and angle iron to hold the roof up. It has been found best to run a nut on the end of the bolt so as to have the roof secure. The roof is built with a six-inch extension on all sides so as to prevent storms from beating in when the roof is raised.—J. R. K.

SUMMER CARE OF PULLETS

Pullets are the timid birds of the flock. They are easily crowded away from the feeding and watering places by the young male birds and from then they receive scant nourishment if no care is bestowed upon them.

We consider pullets as the future money makers of the flock and believe in giving them the best of care and attention. As early as possible we begin culling the flock and find this pays in several ways. Besides making room for the comfort and perfect development of the pullets, we sell the surplus fowls at a time when prices are good and also save further feeding of high-priced grains. Old hens do not lay enough after the middle of July, and in most instances after July 1, to pay for feeding thru the summer only to be disposed of for a much lower price during late fall when most of such stock is being put into market. It is the same with the young cockerels or broilers. There is nothing to be gained by feeding them and putting up with their crowding until fall, when twenty to thirty cents per pound can be had for them during early summer months. When they weigh from one and three-quarters to two or three pounds and over it is best to turn them off. This summer our Rhode Island Red broilers averaged a little over sixty cents each while the Brown Leghorns averaged forty cents each, sold during July at twenty cents per pound.



HOW TO GRIP A FOWL.

There was money in the Leghorn broilers because they were very young and so had not been fed long. The Leghorn cockerel is a nuisance among the hens and pullets, annoying them constantly and persistently with his attentions. In fact, there is no comfort or peace in the flock when it comprises a number of these little fowls. We sell them as soon as possible to make room for the pullets, which show immediate increase in growth and docility when given all the room. We enjoy seeing the pullets first in the feeding grounds and at the milk and the water troughs.

We feed three times daily, feeding in the shade at noon, and keep cool water in the shade at all times for them. The milk is thick, sour milk, which is very good for hens and growing pullets. A portion is set aside each night as it comes from the cream separator. By noon of the following day it has become clabber, and when the young fowls begin to assemble for their noonday feed the milk is placed in a trough kept in a cool shady place, and the fowls greedily drink their fill.

A clean, cool place to roost is very necessary for their perfect development during the summer time. If doors and windows must be guarded against weasles, owls, etc., use coarse wire netting. Some weeks ago some animal created a terrible disturbance among our flocks of young chicks that were then roosting in their small coops. In the morning we found fifteen nice chickens partly devoured, lying about the coops. That night we drove all the young fowls into the large hen house, closed the wire doors and windows, gathered up the dead fowls, placed them in a corner of a coop where the marauder had been and set a steel trap in front of them. Early in the morning we went out to investigate, and found an old female skunk in the trap. Our flock had been visited by rats, weasles, hawks, owls and cats but this was a thief hitherto unknown to us. Truly the path of a poultry raiser is strewn with difficulties.

One of the greatest of drawbacks to the fowls is the presence of lice about the premises. No fowl can prosper when obliged to fight against lice for an existence. We are not bothered with them—a nuisance we have fully under control by using lime-sulphur as a spray in the hen house. Lime-sulphur can be purchased in a liquid state, also in form of a powder. We make a strong solution and apply with a good spray pump, drenching all of the interior of hen house, roosts, nests and walls. One good application during the spring does the work perfectly for us. It can be applied again during early fall if wished, but we have never found this necessary.

Our pullets are given a culling when needed, to remove all imperfect ones, and thus keep the flock looking well and thrifty. Aim to have the pullets go into winter quarters fully developed and healthy and they will fill the egg basket at a time when eggs are high in price. —Cora B. Willians.

The soil is one of the greatest natural resources of any people and largely determines **its** manner of life. It is greater than the mines of all the metals and fuel, the quarries of **stone**, the forests of timber, and the streams with their **latent power and stock of** food **animals.**

Live Stock

MY EXPERIENCE WITH SHEEP

I have had many years of profitable experience with sheep and wish that many more Pennsylvania farmers would keep a flock, even a half dozen as a trial. Last summer, ewes commanded a high price compared to former years, but I feel sure that early lambs, wool and fat ewes will command a correspondingly top figure next year.

My flock of 45 ewes this year gave me 52 lambs that were conditioned and sold in February at $12 and $15 each. The wool we are shearing at this time (April) will bring a top price; more than $2 an animal. I shear in April because a quantity of fleece is lost otherwise and I know a ewe is better off when sheared early. A sheep is a warm-coated animal and cannot endure a heavy fleece when the warm days begin. The tags are removed before lambing time and the fleece sheared is clean and commands the price. It pays to spend a few minutes with each animal shearing dirty wool; it also prevents a young lamb sucking filth which is sure to cause disease in various forms.

This year I shall hold every ewe over for another year, regardless of the inviting figure offered for fat ewes for meat. Besides, I have a flock of 14 ewe lambs that I raised. They will be 16 months old this July when they will be bred for 1918 hothouse lambs. I usually select ewes at the stockyard and always insist that each animal be well developed, have sound teeth and good feet and well-developed udders. I purchase ewes in June and early July and feed them roughage and oats and breed them in July for winter lambs. I use grade Shropshire ewes and a purebred ram of the Southdown type, which cross gives me the market lamb that brings me a top figure; this spring $12 and $15 each.

I use an abundance of straw because I desire a quantity of rich manure to produce the bumper crops that I know are sure to follow on a field spread with sheep manure. The ewes are put on grass each day for about an hour and they are housed in a clean, comfortable, dry, well-ventilated pen. I am now using Canada turnips which I have shipped by the carload and get excellent results as a succulent root cut into small bits and mixed with the grain ration. The ewes have a good milk supply and the lambs are given cut oats and corn just as soon as they can eat it; it is fed to them in the lamb-creep.

I consider early lambs the most profitable sideline for a farmer in any locality, either as a strictly winter sideline or for keeping the year round. I do not keep a dog, neither do I permit a tramp dog on the farm. It can't stay and live. Before the lambs are dropped, the ewes ready to lamb are put into separate pens and thus many lambs are saved which might otherwise be injured where there are many sheep together. The divisions in the pens are kept until after the lambs are sold, when the ewes are put together and conditioned to be bred in July.

HOTHOUSE HAMPSHIRE LAMBS DROPPED IN MARCH.

The profit from early, spring lambs is a big one and the wool sheared from the sheep is a factor and a profit. The manure from sheep is rich and is worth more than the straw costs to make it. Sheep pasture on weeds to a great extent and so keep down those undesirable nuisances. The entire cost to keep sheep is low, because they consume roughage and require very little grain. —A. L. Roat, Bucks Co., Pa.

LIVE STOCK ON SWEET CLOVER

With the exception of alfalfa on fertile soils, no other leguminous crop will furnish as much nutritious pasturage from early spring until late fall as sweet clover, when it is properly handled. Live stock thrive on it. Animals which have never been fed sweet clover may refuse to eat it at first, but this distaste can be overcome by turning them on the pasture as soon as the plants start growth. There is practically no danger from bloat from sweet clover, according to Farmers' Bulletin 820, "Sweet Clover; Utilization," which has just been issued and may be had for the asking from the United States Department of Agriculture, Washington, D. C. Department authorities recommend sweet clover for pasturing beef cattle, dairy cattle and hogs.

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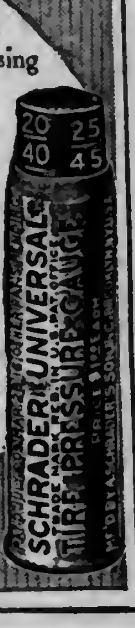

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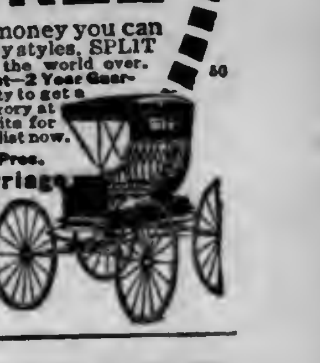

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Before you buy an ensilage cutter, find out all about the *Kalamazoo*—the *only* cutter on the market having a center shear. The Kalamazoo has an unbreakable malleable knife *wheel*—not a knife cylinder. Two knives are constantly cutting toward *center*—absolutely no side-thrust. No wasted power. This center-cutting knife wheel delivers a steady, even flow of ensilage to the blower—clogging is absolutely impossible. Another big feature—

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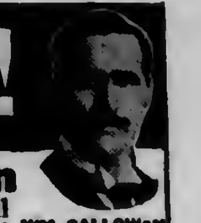

WM. GALLOWAY
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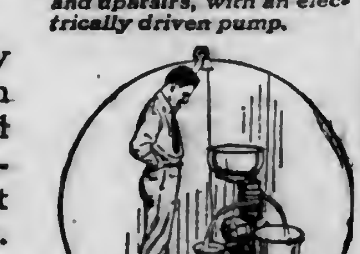
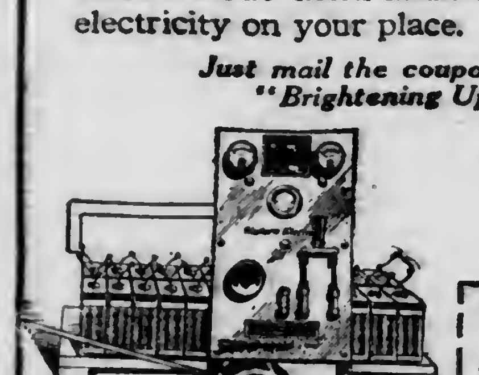

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Horticulture

HOEING THE GARDEN

There are three implements which the amateur will find indispensable in working his garden. For the large areas, a good wheel hoe or land cultivator is invaluable as a time and labor saver. Another excellent device is the scuffle or scalping hoe, shown in the illustration. Used in conjunction with the wheel hoe, it is most efficient in cutting out weeds; and in small plots may replace the hand cultivator entirely. This implement is pushed down the row ahead of the operator. The blade slides along about half an inch below the surface of the soil, cutting off the weeds and breaking up the crust. The scuffle hoe must be kept sharp, and in that condition will do a surprisingly large amount of efficient work in a short time.

EASY WORK WITH SCUFFLE HOE.

Both implements do a large amount of work formerly done with the common hoe, but they can not entirely replace it. In buying a hoe for the garden, get one with a stout handle and a small or medium size blade. A large bladed hoe is useless for fine work in the garden, beside being hard to handle. Buy a file with the hoe and keep it sharp. A new hoe is usually already ground to a bevel on the under surface, but this is a mistake. Always file a common hoe, or a scuffle hoe, on the side nearest the surface of the ground. The hoe will cut better and stay in the ground better. Always keep the hoe clean and bright—it will make the work easier. As a rule, it is better to use a drawing motion than a chopping motion in hoeing. First hoe off a thin surface layer—this breaks the crust and kills the young weeds Then draw a little fresh earth up around the plants. The ground should not look bare and scalped after hoeing, but there should be a fine mulch of earth left, to retain moisture and support the plant. In hoeing such crops as potatoes, when the plants are far enough apart, each plant can be hoed in four strokes. Place the hoe in back of the plant, and draw it around and in front with a semi-circular stroke. Repeat on the other side. This breaks up the crust and kills the weeds. Then repeat the whole operation, drawing a little fresh earth up to mulch and support the plant.

Always try to get the weeds just as the seeds sprout. The best time to kill a weed is just before you can see it.—R. L. Scharring-Hausen.

WEAK LINKS IN THE FRUIT BUSINESS

(Continued from page 1.)

cost of living by merely cutting out the middlemen. Selling direct from the producer to the consumer is splendid in theory but outside of a few exceptional cases, the producer has no time for the large amount of detail work that "direct selling" requires.

However, we have gotten away from the small fruit grower. How is he going to market his fruit at a profit and gain a reputation for himself? That question has been answered by the fruit growers in the west, by the peach growers in the south and to a certain extent by the milk producers around the large cities here in the east. Co-operation is the answer, and I believe it is the only answer for the small growers who have more fruit than their home markets will consume. Co-operation is needed by all producers, but it is especially needed by the little fellow, because he can not help himself. It is hard for a man with but a couple hundred barrels to get a reputation for his fruit on a big market. His product is soon lost in the mass. But when he sells under the brand name of a large co-operative association, he helps make and shares in the reputation of that association. You say, if that is all there is to it, why have so many co-operative associations failed? Principally because they were trying to "take the moat out of the other fellow's eye before they had taken the beam out of their own."

A well-graded, standard package is the foundation for every co-operative association selling fruit of any kind, and any association formed without that idea, in my mind, is bound to fail. Unless the fruit is of high quality and well graded, it is impossible to get a reputation, and unless the fruit from each orchard is packed according to the same standard, it is impossible to hold the growers together because the better growers will suffer on account of the inferior fruit shipped by the poorer growers.

The western growers found that good grading and packing was absolutely necessary to their own success and to the success of the association. In fact, so important was it that they could not depend upon the growers to do it themselves, but they have it done under the supervision of the associations. That is plain enough to show us Pennsylvania growers that if we want to get a reputation for our fruit we must pay much more attention to our grading and pack our fruit so that it is not only high in quality but runs uniform in size and color.

At the present time, our grade names and definitions are in a state of evolution, but the grade name and the grade definitions seem to me to be of minor importance compared to the grading itself. If the growers will grade carefully and uniformly, and pack honestly, I think there will be little difficulty about grade names. The barrel is, of course, the standard package in Pennsylvania and I believe it will continue to be so for a long number of years. The box does not seem to work very well and, as near as I can learn, is no more than holding its own in this state. This is not due to the fact that we do not have fruit fine enough to pack in boxes, but simply because we have not been careful enough in our packing and have not established a reputation for our boxed apples. The buyers are afraid to touch eastern boxed apples because, in the past, they have not been able to depend upon them. When we remedy this one thing, I believe they will sell alongside of the western boxed fruit.

For good growers, not too far away from their market, and for men who have the time, there seems to be an opportunity for marketing a small amount of high class fruit direct to the consumer. For this purpose, however, I think we must use a different package. The barrel is too large for a consumer who has poor storage facilities and too much fruit goes to waste. The wooden box, on the other hand, is too cold and allows the fruit to freeze in transportation. Here, I think the best package is the one hundred apple, cardboard box. In this package the apples are not bruised in shipping, the cardboard protects them from heat and cold, while the quantity is not so large that the consumer cannot use them before they have started to deteriorate in quality or to decay. This method of marketing demands a lot of work, however, and is difficult to carry out on a large scale.

Let us direct our attention to better grading and packing with the same energy that we have used in production heretofore and I think our marketing problems will sovle themselves to a large extent.

GARDEN QUESTIONS

"1. I planted 4 lime bean seeds in each hill and staked them. All grew and are very thrifty. They seem inclined to wander about. Shall I trim them, or should I pull out some of the vines? 2. I planted strawberry plants in April, and am keeping them weeded. Should the runners be cut off; if so, how often, and when? 3. I purchased a few raspberry plants in April, but only two lived. Can I plant more in the fall, or is spring the only time to plant them?" — Subscriber, Delaware Co., Pa.

The lima beans may have been planted too close. If so, it might be best to pull up a part of them. For the large varieties, four feet each way is not too far apart. We would not advise trimming them. It is sometimes necessary to help them start twining about the poles. 2. It is best to keep strawberry plant runners pinched off until the middle of August. Then allow from four to six to grow, in as many directions, set a plant at first joint. After that, keep them from spreading further. 3. Raspberry plants may be set late in the fall. However, most growers prefer spring planting.

The story you ask about, The Man with a Hoe, printed in Pennsylvania Farmer some time ago, is printed in book form. Possibly you may obtain it from one of the large book stores.

Destroy the weeds before they destroy the profits.

—

Don't say "can't" for you never know what you can do until you try. Just try.

—

In most instances an ounce of help will produce better results than a ton of criticism.

—

A good motto for the farmer is "No weeds on this farm will go to seed this year."

—

Work is the greatest of benefactors. It gives us everything and cures many ills. Worry is what kills.

Mr. Wheat Grower
Plan early for fall seeding—carefully prepare seed-bed—arrange for fertilizer—*sow good seed wheat of the right variety—sow*
"Hoffman's Seed Wheat"
Grown in famous Lancaster Wheat Belt—known in every section for its hardiness — vitality — productiveness. Is reliable—means increased yields wherever taken to be sown.
Eight varieties—smooth and bearded sorts—graded—sound cleaned clean — *free of rye, cockle, garlic, cheese, smut.*
Shown here is the *head of "Leap's Prolific" variety*—yielding 35 to 48 bushels per acre.
Seed must please you. Sold on Money Back Plan. Costs only 30c to $1 per acre to change to "Hoffman's Seed."
'Hoffman's Wheat Book"
Describes varieties — tells "How to Get a Crop of Wheat"—offers other farm seeds. It is free—with samples—if you tell where you saw this offer. *Write for it today.*
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Free from weeds and immature grains. This year, if ever, it pays to sow nothing but the best.
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Our High Grade Timothy seed is the most carefully selected and recleaned, 99.70 per cent pure. Freight prepaid. Samples free.
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TIMOTHY seed—cleanest—heavy—vigorous—3 grades.
SEED WHEAT—8 kinds—Samples and Catalog Free.
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Scott's Timothy Seed
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UNRELIABLE JIM

By A. F. Caldwell

"And so you've spent the rest of the little money your father left you on that food thing!" and Joel Amos nodded angrily in the direction of the woodshed, against the front of which was leaning a second-hand bicycle. "I thought when you brought home that old rifle that Cy Wardwell wheedled you into buying, that you'd spent the last money you were going to on such kind of trumpery."

"But this—a bicycle—will be useful," pleaded Jim, changing the milk pails he carried from one hand to the other. "Besides—I got it at a bargain!"

"Bargain nonsense!" exclaimed the man, irritably. "Whatever the price was that you gave for it—'twas twice what the thing was worth! If a boy has a few cents nowadays—and they're all just alike—they burn in his fingers until he spends them on something—it makes no difference on what."

"But—"

"No use talking; the money's spent," was the hurried interruption. "'Tis time now to get to the milking. 'Twill be dark before you finish—unless you get at it!"

"Have I got to milk them all?" inquired Jim, tired with a day's work.

"Have you got to? Who's to do it—if you don't!" and Joel Amos turned away to attend to the mending of the pump handle, in the well-house across the road.

By mistake, Jim overlooked one of the cows in his milking; the only way he could account for it was that he was too tired "to see". He was just setting the last can away in the creamery when his employer came in.

"That's not all the milk you got tonight, is it?" pointing to the partly filled cans.

"Yes, sir," replied Jim, lifting a heavy cake of ice into the tank.

"Then you haven't milked them dry—that's all!"

"But I have—all they would give," replied Jim, honestly.

"Come to the barn and we'll see," and the older man started quickly down the path. Jim followed silently.

"You call that milking them dry?" inquired Joel Amos, reaching the last cow at the end of the line. "She wasn't even touched," and his lips twitched angrily.

"I—I must have overlooked that one," confessed Jim, slowly. "But I didn't do it intentionally; indeed, I did not!"

"You think I'll believe that!" and the man reached for the empty pail Jim was carrying. "You did it purposely—because you had to do the milking tonight. Its just like you—shiftless and unreliable unless some one is at your heels constantly. I suppose you wanted to get thru in order to ride that bicycle of yours."

Jim made no reply.

"Very well, your trial time is up Friday, and you may ride the machine for the rest of the summer—for all I care. I'll put up with you only until then—then you may go."

"But I really—"

"I mean what I say," and Joel Amos turned to his milking. Then after a moment, "Friday, you leave here; do you understand?"

"Yes, sir," and Jim started aimlessly from the barn.

"I didn't know that I hadn't milked them all," he said to himself, bitterly, as he went toward the house. "He hasn't treated me fair—not since I came here to work, and I wouldn't care so much about going, if it wasn't for her and the children. She seems like—what a mother would be, and has never been cross like he has."

Jim Colfax had come to the Amos farm eight weeks before. It was with the understanding that he'd be given a two months' trial, and if, at the end of that time, he proved satisfactory, he would be retained for the year. He was to have his board and clothes, and the simple necessities that a boy might require.

But the work had been hard on the forest farm, far from neighbors; and Joel Amos had constantly found fault with the amount of work that the boy was able to do.

"You mustn't think, Joel," cautioned Mrs. Amos, taking the boy's part, "that one no older than he is can do a man's work; it isn't to be expected."

"But he can do more than he does," insisted her husband, doggedly. "Why, he doesn't earn the food he eats, to say nothing of his clothes and that sort of thing."

"But he's new to the work; he will in time."

"I don't want help in time — I want it now! Then another thing, he's spending the little money his father left him—in mere foolishness. A boy of that disposition never'll amount to anything; it isn't in him."

"You shouldn't demand too much," charitably. "Jim's not as old as we are," and Mrs. Amos, in opposition to her husband's opinion, still had faith in the boy. "One couldn't be better to the children. For my part, I don't know what I'll do without him."

Jim had learned to ride a bicycle long before he went to work for Joel Amos, and during the few days that remained before Friday he spent his leisure time at the noon hour and after the chores were done, giving eight-year-old Dorothy and Joel, Jr., four years younger, rides on the new bicycle.

"We'll miss you awfully—when you go," declared Dorothy, greatly troubled at the thought of Jim's leaving. "Can't you—stay!"

"No; not after Friday. But we'll have a good time until then," with an effort at cheerfulness.

"I—I think papa's mean!" exclaimed Joel, Jr., "to send you off now."

"Hush, Joel; you shouldn't say that," corrected Jim. "You must never say things of that kind about your father."

"But he—he isn't nice—to you," persisted the little fellow, stoutly.

All that week the atmosphere in the vicinity of the Amos farm was filled with smoke, which grew denser as the days went by.

"I'm afraid the forests are afire to the east of us," suggested Mr. Amos, on Thursday evening. "But I don't imagine," as he noticed the anxious expression on his wife's face, "that we're in the least danger. The fire may be miles away."

"Don't you think," asked Mrs. Amos, "that you'd better keep Jim here until after we get back from Mayville, on Saturday?"

"No; he's no good. The quicker we get rid of him the better."

"But the children—I dread to go away on Saturday and leave them here alone. Dorothy, you know, is only eight."

"They'll get along all right; just for one day—I haven't any fear. We'll be back long before night."

"I—know," and Mrs. Amos realized it would be useless to press the matter further.

The next day Jim left the farm, to go—he knew not where.

"I wish you were going to stay, Jim; I dislike to see you go," said Mrs. Amos slowly, as she bade the boy goodby. "It isn't any of my doings—your leaving."

"He did more than I realized," confessed the farmer that night, to himself, as he went about doing his chores alone. "I almost wish—no; its a good riddance. I can't have any one that's unreliable around me!"

The next morning the smoke was so thick that one could hardly see to the barn.

"Is there any need of my going to Mayville, Joel?" asked his wife anxiously, before breakfast. "I never saw it so smoky before. Suppose anything should happen—and the children left here alone!"

"There's nothing going to happen," returned her husband, assuringly. "You will have to go; its necessary that both of our names be affixed to the deed."

Jim was at Newton Corners, five miles from the Amos farm, that Saturday afternoon, when word came that the forest fires were only a short distance away. And a strong east wind was blowing.

"Any one here to warn Joel Amos?" was hurriedly asked.

"I can." It was Jim who spoke.

"But you can't walk it—you haven't time."

"I have my bicycle!"

Jim was not half way to the farm before the smoke was almost blinding, and he was sure that he could already feel the heat from the burning timber.

"Their folks are away," he thought. "I—I wonder if I'll be in time—to save—them," and Jim was thinking of the children.

The road was rough and rocky, but the boy was strong and he was a good rider. Closer and closer the flames were creeping. Jim could now see the fire, a little to the east of him, darting high among the trees, like the tongues of so many angry serpents.

"I hope—I'll be—in time," and he exerted all the strength he possessed.

He was unable to see the house as he approached it, owing to the cloud of smoke that enveloped the farm buildings. But he knew it was just ahead, for he had reached the bars leading into the pasture.

"Dorothy—Joel!" he called. "Are you—there?"

Amid the roar he heard a voice; it was almost inaudible. He knew it was Dorothy.

"Hurry, children!" he cried. "I must take you on my bicycle—quick."

Dorothy clung on behind, as he had taught her to ride, while Jim held little Joel on the handle-bars.

"Now hang on for dear life! We've got to go fast!"

They had hardly reached the bars again, before a sheet of flame spread from the barn to the house, destroying everything before it. Jim held his breath—it seemed to the boy—until he crossed the bridge over the river, two miles from the Amos farm.

"There—we're safe!" and he tumbled from his wheel, and lay on the ground, completely exhausted, begrimed with sweat and smoke.

"Jim!" It was Joel Amos who stood holding the boy's hand in his two trembling ones. He had found him with the children, at Newton Corners—safe. "I don't know as I ought to ask it; but will you come back with me and help start the farm anew?"

"If I—I may be—"

"My boy!" interrupted Joel Amos, huskily. "Jim, nothing could please me more."

Household

THE SUMMER WASHINGS

The Easiest Ways

Without a Washing Machine.—I have found the following way the easiest on the washer and most sure to make white, sweet smelling clothes: Either the night before or a few hours before washing wet all the clothes well with warm water. Cold or hot water will set stains and make it harder to remove the dirt, while warm water loosens. Soap each piece well with a good soap, roll quite tightly, pack closely in a tub. When all have been soaped, pour enough warm water over them to cover.

When ready to rub them I have ready a boiler of cold water into which I have thrown shavings of broken soap and a tablespoon of borax. I let the clothes come to a boil in this, removing them to clear rinse water and refilling the boiler with fresh water for each set of clothes. The borax whitens and disinfects. Several waters are used to rinse the clothes, until that poured off is clear, and then I put them thru a blue water, wring out, starch and hang up.

The colored pieces can not stand so much soaking, but if left soaped and rolled up for 15 minutes, they will be much easier to wash than if just pushed into the water and left to soak.

I find that men's stockings are much more easily cleaned if a stiff brush is used on the toes and heels than if I depend entirely upon rubbing. Men's overalls may also be scrubbed with the brush.

Blankets are heavy to handle, but if one uses this method it will be easier: Soak a blanket in a tub of warm soapy water for half an hour, then rub on the board all around the edges (where most of the soil is), then push the goods up and down in the soapy water. A hand suction funnel helps wonderfully, and does not cost much. The rinsing water should be warm and slightly soapy, and there should be several to remove all the dirty water. Hang out carefully so that the hems will be straight, then the blanket will not dry crooked. A clear, sunny day should always be chosen.

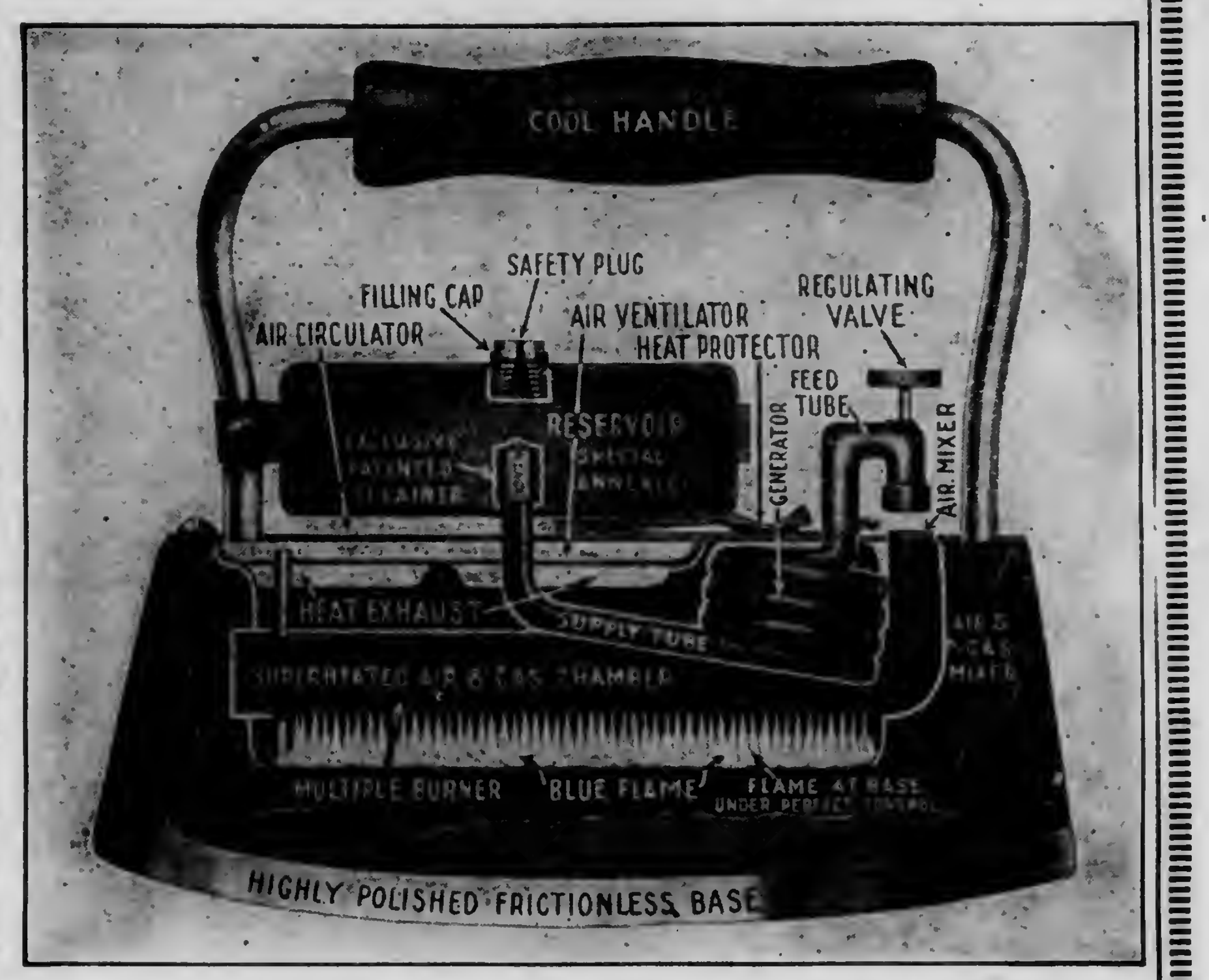
Hanging Carefully Saves Ironing Work.—If stockings are hung out carefully, pulling the feet and legs straight, they will be smooth when dry and require no ironing. Sheets and towels should be hung straight, and folded when taken down, then they, too, will need no ironing. Sheets should always be hung by the hems—the two together keeping them from tearing in windy weather. Never jerk clothes from the line when frozen—it will mean many moments of mending later.

A dust of flour on the hands after drying or a pair of white cotton gloves will help to keep them from getting chapped in cold weather when hanging out clothes.

Any money spent in buying such articles as are on the market to facilitate this labor will be well spent. Gasoline irons will save much time and strength in running back and forth to the stove. A washing machine which may be run by engine is invaluable, and set tubs with hot and cold running water make this hard work much easier on women.

Using Liquid Soap.—I find it a great aid in washing, for it saves much hard rubbing. I scrape half a bar of good laundry soap into a gallon of water, and add 2 tablespoons of ammonia and 1 of powdered borax. This I slowly bring to a boil until the soap dissolves. This I add to the necessary amount of water in the tub and put the clothes in to soak. In this way the soap, which is all thru the water, reaches every part of the soiled garment better than if rubbed on. In the morning it is surprising how much less rubbing is required than when they are simply rubbed with the soap bar. I find, too, that less soap is used this way than when the bar is rubbed on each piece as it is washed. Of course it is necessary sometimes to use the bar, too, but there will be a splendid suds without. All the small, otherwise unused, pieces of hand and toilet soap may be utilized in this manner.

I then put the clothes into cold water, add one more tablespoon of ammonia and one of borax, or some good soap powder, and let them slowly come to a boil. But I do not boil them, for this yellows them. The slow heating draws out what soil is left in after the rubbing, and bleaches the garment. Then thoroly rinsed and blued, starched where necessary and hung out carefully, the washing is a joy instead of a failure.



INTERNAL VIEW OF A GOOD TYPE OF GASOLINE FLATIRON.

Ironing

If two ironing board slips are made somewhat like a pillow case, of unbleached muslin, it will be easier to put clean cloths on your board. Sew long tapes, two to a side, along the seams and when on the board tie underneath to prevent slipping. When one side is soiled, turn around to the other, using the same tapes to tie. These slips are easily washed.

If the board is of the proper hight so that the worker will not have to stand stooped while ironing, the ironing will be easier. To clean the irons rub them with salt, wax or sandpaper as each is taken from the stove. Gasoline and electric irons do not get black.

Much time is saved if some of the ironing can be done the same day it is washed, as everything irons easier then. Some of the pieces need no dampening, and can be folded and ironed with little effort. Dish towels, stockings and odd cloths need not be ironed, as it takes time and wastes the energy of the ironer. If the clothes are left until the next day, allow an hour at least for them to lie sprinkled and rolled up. Linens need a little more time to lie, and should always be ironed quite wet.

The hems of sheets may require a little pressing, but if carefully folded when taken from the line they will answer without ironing.—Mrs. E. P. Loomis, Delaware Co., Pa.

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Tell Your Experience

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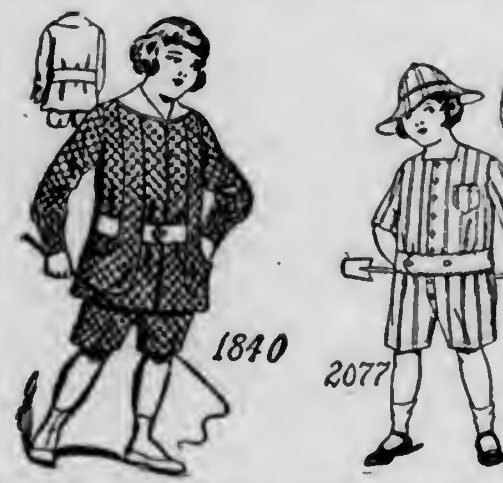
1840.—Boys' Suit.—Checked suiting is here shown with belt and collar of white corduroy. The pocket sections may be omitted, and the belt stayed by straps at the underarm seams. The trousers are cut with straight lower edge, and have a good, comfortable pocket at the side. The pattern is good for linen, galatea, gingham, serge, cheviot, corduroy and velvet. It is cut in 4 sizes: 4, 5, 6 and 8 years, and requires 3 yards of 44-inch material for a 5-year size. Price, 10 cents.



2077.—Boys' Rompers with Sleeve in Either of Two Lengths.—This suit may be finished with a collar, or with neck in square outline. The pattern is cut in 5 sizes: 2, 3, 4, 5 and 6 years. It requires 2⅜ yards of 36-inch material for a 4-year size. Price, 10 cents.

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"I'm On the Back of Every Sack"

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., July 30, 1917.

Receipts of fresh fruits and vegetables are running heavy at this time and in a wide range of varieties. The great bulk of green goods is arriving from nearby points in New Jersey and Pennsylvania and in the past the increased volume has caused prices to drop to a lower level. It is an unfortunate condition when the cost of labor and all necessaries for commercial gardening are greatly increased and the price received by the grower continues on the low level of former years. To popularize the greater usage of such vegetables and fruits as are in most abundant supply on the markets would be an admirable bit of work for the war emergency committees on food supply in every city.

White potatoes from New Jersey are in heavy supply on the Philadelphia market; so much heavier that the price is down to 55 to 65 cents per ⅝-bushel for first grades, and 40 to 45 cents on second grades. Increasing supplies are expected in the next two weeks and in all probability lower prices will be secured. The crop from New England follows the Jersey crop and growers from Connecticut north are looking for unprecedented crops and are fearful of consequent low prices. Thirty to forty cars of Irish Cobblers from the Eastern Shore of Virginia continue to arive daily. Sales on this stock are being made at $2.75 to $3 per barrel for firsts and at $1.50 to $2 for seconds. Much of that which is large enough for first grade is of inferior quality and is selling at $2 to $2.50 per barrel. Altho we would think these prices should attract the buyer the demand is slow.

Vegetables

Fancy Jersey tomatoes of the second early varieties are in good demand and selling principally at 75 cents to $1 per ⅝-bushel basket. The final lots of early tomatoes are variable in quality and the movement is draggy at 40 to 60 cents per basket. A greater number of growers are packing their tomatoes in bushel crates this year, due to the shortage of baskets also because the pack can be made more attractive. Sales on crate tomatoes are from 60 to 75 cents on earlies and at 75 cents to $1.25 on second early varieties.

Sugar corn of the first cutting is in strong demand at 60 to 75 cents per Jersey (⅝-bushel) basket. Second cutting corn is in abundant supply and dragging on the market at 40 to 50 cents per basket. The supply of Jersey and Pennsylvania cabbage far exceeds the demand and growers are receiving scarcely enough for their shipments to pay for transportation. Near-by Pennsylvania cabbage is selling at 40 to 60 cents per barrel and Jersey cabbage at 10 to 15 cents per ⅝-bushel basket.

Green beans are in fair supply and fancy young beans are selling with good demand at 40 to 60 cents per ⅝-bushel basket. Fancy wax beans, clear from spots and rust, are selling at 50 to 65 cents per basket, but much of the stock is of poorer quality and sells at 30 to 40 cents per basket. Lima beans are scarce and good grades are selling at $3 to $4 per bushel hamper. Poorer grades of limas are offered at $2 to $2.50 per hamper. Cucumbers are in abunadnt supply and prices now stand at 25 to 35 cents per ⅝-bushel basket and the movement draggy. Small size picklers are selling at 50 to 75 cents per basket. Maryland growers continue their shipments to this market and their stock packed in bushel hampers is selling at 25 to 35 cents per hamper. Egg plants are in heavier supply and the market is holding firm at 80 cents to $1 per ⅝-bushel basket. Florida egg plants are receiving less attention with the market being supplied from New Jersey; sales are from 75 cents to $1.25 per crate.

Onions are in moderate supply from New Jersey but the movement is very dull and draggy. Yellow Danvers from near-by sections are selling at 50 to 60 cents per ⅝-bushel. Onions from the Eastern Shore are arriving in poor condition and selling at 40 to 50 cents per bushel hamper for yellow varieties. Texas crate onions are dragging out at 90 cents to $1. The more plentiful supply of Jersey peppers is creating an easier market and sales are largely from 50 to 60 cents per ⅝-bushel basket. Florida peppers are selling at 75 cents to $1 per crate. Squash are dragging on the market at 10 to 15 cents per ⅝-bushel basket. The supply of lettuce is much lighter and fancy near-by stock sells at $1 to $1.50 per box.

Bunch beets and carrots are plentiful but the market remains steady about as quoted last week. Beets are selling at $1.50 to $2 per hundred bunches and carrots at $1 to $2 per hundred bunches. Nearby radishes are still abundant and selling at 50 cents to $1 per hundred bunches. Shipments of early sweet potatoes from North Carolina are selling at $6 to $7 per barrel for firsts and at $2.50 to $4 for seconds.

Fruits

Apples are selling at a better price than at this time last season and prime, well-matured, hand-picked stock are meeting with a strong demand. The market on fancy eating varieties ranges from 85 cents to $1.25 per ⅝-bushel basket. More common varieties which are used chiefly for cooking purposes are selling at 40 to 65 cents per ⅝-bushel basket. Fancy hand-picked varieties shipped in from Delaware and Maryland are selling at $1.50 to $2 per bushel hamper and medium grades at 50 cents to $1.

The market on peaches is weaker and while the supply is only moderate, it is adequate to meet the demands. Georgia Elbertas are showing fine quality and are selling at $2.75 to $3 per crate; with some poorer grades selling at $2.25 to $2.50 per crate. A quantity of Belles which had been held in storage are being sold and those in best condition are bringing $2.50 to $2.75 per crate and poorer, overripe stock is selling as low as $1.50 to $2 per crate. North Carolina Elbertas are selling at $2.75 to $3 per crate and Hiley Belles at $2.75 to $3.25 per crate. Greensboros from New Jersey are selling at 80 cents to $1 per crate.

Cantelopes continue to meet with an active demand and a strong market. California standard crates are selling at $3.25 to $3.50 and flat crates at $1.25 to $1.50. Arizona cantelopes are keeping close to California stock on sales prices. Southern shipments are only fair in quality and range in sales from 75 cents to $1.25 per crate.

The demand for watermelons is poor and the market is heavily stocked. Numerous carlots are being received in bad order and selling for less than freight.

Poultry

The market on live poultry is firm with offerings light. Fowl of desirable size and quality are in demand at 22 to 24 cents per pound and fancy spring chickens at 23 to 26 cents. Roosters are selling at 16 to 18 cents. Live ducks of good quality are selling at 17 to 19 cents.

Fresh-killed, dry-picked fowl are in lighter receipt and meeting with good demand. Fowl from nearby are selling at 23 to 25½ cents per pound, according to size and quality. Light weight fowl are in fair request at 21 to 22 cents. Nearby ducks are selling at 20 to 23 cents per pound.

Eggs

There is a strong demand for new laid eggs, receipts running light. The market is made dull by the quantities of unattractive stock arriving. Nearby extras sold at 36 cents per dozen; nearby current receipts at 35 cents; seconds at 31½ cents. Southern eggs are selling at 33 to 34 cents per dozen.

—Selmarad.

YORK PRODUCE MARKET

York, Pa., July 30, 1917.

All the city markets were largely attended by both buyers and sellers but the general tone was decidedly dull. The first lots of real nice corn and tomatoes were offered for the first time this season but the demand was light. Butter is scarce. Eggs are not as plentiful as before. A good grade of eating apples sold quite well at 8 to 10 cents a box, but baking apples were mostly of poor quality and sold as low as 5 cents per ¼ peck.

Eggs.—34@35c per doz.

Butter.—Country, 38@40c lb; separator, 40@45c lb. Milk, 8c quart.

Poultry.—Hens, 19@20c lb; springers, 22@25c lb. Dressed, 75c@$1.50.

Vegetables.—Potatoes, 10@18c ½-pk. Lettuce, 5@8c a head. Cabbage, 2@4c head. Beets, 3c bch. Radishes, 5c bch. Onions, 4@5c bch. Lima beans, 30@35c qt. Soup beans, 35c qt. Celery, 5@10c. Tomatoes, 5@10c bx; 20c ½-pk. Peas, 15@20c ½-pk. Beans, 10c ½-pk. Asparagus, 10c bch. Rhubarb, 5c bch. Turnips, 20@25c ½-pk. Corn, 20@30c dozen.

Fruit.—Apples, 8@25c ½-pk. Raspberries, black-caps, 10@12c box; reds, 8@10c pt. Plums, 7@15c bx. Peaches, 5@20c bx. Cantaloupes, 3@8c each. Watermelons, 25@40c each.

Retail Grain Market.—Wheat, $2.25; corn, $2.25; oats, $1.10; rye, $1.75; bran, $2.10 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $2.14; corn, $2; oats, 93c; rye, $1.55; bran, $40 ton; middlings, $58 ton.

LANCASTER PRODUCE

Lancaster, Pa., July 30, 1917.

Butter was so scarce on the market today that the entire supply was cleaned out early in the day. Eggs were plentiful but a price of 36@37 cents a dozen prevailed. There were more potatoes on sale than at any other time during the year, the largest ones being held for $1.50 per bushel. Corn was more abundant and prices fell materially.

Butter and Eggs.—Butter, creamery, 48c per lb. country, 45c; eggs, fresh, 36@37c.

Live and Dressed Poultry. — Chickens, dressed (old) $1@1.25; do., young, 75c@$1; do., live, $1.50@2 per pair; do., old, live, 18c per lb.

Vegetables and Fruits.—Corn, 15@25c dozen; new beans, 10@12c hf. pk; lima beans, 12@15c pint; squash, 4@5c each; celery, 5@10c bunch; beets, 5c bunch; cauliflower, 15@20c head; eggplant, 10@12c; sweet potatoes, 30c hf. pk.; potatoes, $1@1.50 per bushel; do., 15@20c hf. pk.; carrots, 5c bunch; turnips, 5@10c hf. pk.; tomatoes, 10c box; raspberries, 10@12c box; blackberries, 10@12c box; cantaloupes, 3@6c each; apples, 10@15c hf. pk.

County Butchering.—Bacon, sliced, 40c; do. whole, 30c; dried beef, 12c per ¼ lb; ham, sliced, 32c; do., whole, 28c; calves liver, 30c; beef liver, 16c; veal, boiling, 18@20c; do., steak, 30c; do. rib roast, 22c; beef, chuck roast, 22@24c; do., round steak, 25c; do., sirloin, 28@30c; do., porterhouse, 20c; lamb, chops, 35c; do., leg, 20c; do., shoulder, 30@35c; pork, roast, 30c.

Grain Market.—Milling wheat, $2.10 bu; new wheat, $2.10; corn, ear, $1.90; rye, $1.70; timothy hay, $18@19 ton; mixed hay, $16@18; wheat straw, $11@12 ton.

NEW YORK PRODUCE

New York City, July 30, 1917.

Butter market remains firm, and cheese shows little change. Egg arrivals are lighter but demand is quiet. Dressed poultry shows little change. Several shipments not in the best condition due to hot weather. Offerings of potatoes are liberal and prices lower.

Butter.—Creamery, extras, (92 score), per pound, 39½c; higher score, 39½@40½c; thirds to firsts, 34½@39c; state dairy, 35@40c; ladles, 33@36c.

Cheese. — Fresh colored specials, 22@22¼c; white, 21¼@22c; undergrades, 8@16½c.

Eggs. — Fresh gathered extras, 38@39c; extra firsts, 36@37c; near-by white, fine to fancy, 45@47c; ordinary to good, 42@44c; browns, 40@44c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 35c lb; old roosters, 16@17c; squabs, $1@3.75 per doz. Spring ducks, per lb., 20@22c; turkeys, fresh killed, 22c.

Vegetables and Greens.—Beans, per basket 25@75c. Beets, per bbl., $1.25@1.75. Onions, per crate, 50c@$1.35. Potatoes, Jersey, $1.50@3.50 per bbl.; Jersey sweets, $1.50@3 per basket. Carrots, $2@4 per bbl.; lettuce, 25@60c basket. Corn, per 100, $1@3; cucumbers, 40c@$1.50 basket; peppers, per bbl., $1.50@2; radishes, $1 per bbl.; tomatoes, Jersey, 50c@$2 per box.

Country Dressed Veals.—Choice, 20@21c; prime, 19@20c; fair to good, 18@19c; coarse, heavy, 15@16c; buttermilks, 12@14c.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., July 30, 1917.

Receipts for week ending Saturday evening July 27, 1917:

	Beef Cattle	Sheep and Lambs	Hogs
Total for week	3,217	7,470	6,898
Previous week	3,846	8,439	5,948

Calves.—Total for the week, 3,115; previous week, 3,010.

Beef Cattle.—There was little trading and the market for calves ruled weak under fairly liberal offerings. Other kinds sold slowly and showed little change.

Steers.—Extras, higher; good to choice, $12@12.75; fair to good, $10.75@11.75; milk cows, $75@120; bulls, $7.50@9.75; cows, fat, per lb., 7½@9¾c; fair, per lb., 6½@7c; ordinary, per lb., 4¾@6¼c; bolognas, 2¼@4¾c; calves, exceptional lots, $14.50@15; good to choice, $12@13.50; medium, $10@11.50; common, $7@9; Tennessee and southerns, $8@12.

Sheep and Lambs.—Offerings were only moderate and the market ruled steady on sheep of desirable quality, for which there was a fair demand. Lambs, however, were dull and weak under fairly liberal supplies.

Sheep. — Wethers, extra, $10@10.50; choice, $9.50@10; good, $8.50@9; medium, $6.50@7.50; common, $3@5. Ewes, heavy, fat, $8@8.50. Lambs.—Extras, $15@15.50; fair to good, $12.50@13.50; common, $10@12.

Hogs.—Offerings were only moderate and the market ruled steady with demand fair.

Best western, $15.75@16; lights, $14.50@15; roughs, $13@14.

City Dressed Stock.—Trade was slow and the market ruled weak, with prices of lambs 1c lower.

Steers, 16½@19c; heifers, 14@17c; cows, 12@17c; calves, 20@21c; southerns and barnyards, 14@17c; country, dressed, 18c; extras, 19c; sheep, 21c; extras, 22c; lambs, 24c; extras, 25c; hogs, 22c.

PITTSBURGH LIVE STOCK

Pittsburgh, Pa., July 30, 1917.

Cattle.—The supply on sale Monday was 150 loads compared with the same number the week before. The market ruled slow and generally 10@15c per cwt. lower, while some of the plainer grades sold at even more of a decline. Heifers in liberal supply and sold generally 15@25c per cwt. lower. Cows in fair supply, bolognas sold lower, while medium and choice were about steady. Bulls in liberal supply and sold easier. Best fresh cows steady, other grades slow. With receipts of 140 loads today the market was fairly active and steady on choice fat and desirable handy steers. Other grades slow.

Good to choice	$12.25@12.50
Good, 1300-1400 lb.	11.75@12.25
Medium to good, 1200-1300 lb.	11.25@11.60
Tidy, 1050-1150 lb.	11.00@11.75
Fair to medium, 1000-1100 lb.	9.50@10.25
Fair, 900-1000 lb.	8.75@ 9.10
Common, 700-900 lb.	7.00@ 8.25
Rough, half-fat, 1000-1300 lb.	9.00@10.50
Common to good fat oxen	7.50@ 9.00
Common to good fat bulls	7.00@ 9.50
Common to good fat cows	6.25@ 9.00
Heifers, 700-1100 lb.	7.00@10.00
Bologna cows	5.25@ 6.00
Fresh cows and springers	$25@90

Calves.—Veal calves in fair supply. Market slow and closed 50c per cwt. lower. Today's receipts, 1,300 head. Market active and steady.

Veal calves	$10.00@10.45
Heavy and thin calves	5.00@ 8.50

Hogs.—The supply of hogs during the week has been light and with a good demand the market ruled active and higher, the close for the week being 40c per cwt. above Monday's close. There were 25 double-deck loads of hogs on sale today. Market higher on all grades.

Prime heavies	$16.50@
Heavy mixed	$16.50@
Prime medium weights	16.50@
Best heavy Yorkers	16.50@
Light Yorkers	16.00@
Good pigs	15.00@15.25
Common to good roughs	13.60@14.00
Stags	12.25@12.75

Sheep and Lambs.—The supply of sheep and lambs has been light. With a fairly good demand the market ruled active and prices were steady all week on all best grades. With 15 double-deck loads of sheep and lambs today's market was fairly active and steady on sheep, while lambs were slow and barely steady.

Prime wethers (95 to 100 lb.)	$10.25@10.50
Good mixed	9.25@10.00
Fair mixed ewes and wethers	8.00@ 9.00
Culls and common	4.00@ 6.00
Culls to choice yearlings	7.00@12.00
Spring lambs	10.00@15.00

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., July 30, 1917.

Baled Hay and Straw.—Receipts, 204 tons of hay and 1 car of straw. There was little doing as usual on Saturday, but offerings of desirable stock were light and values were well maintained.

Timothy hay, No. 1, large bales, $21; No. 1, small bales, $21; No. 2, $18@19; No. 3, $15.50@16.50; sample, $11@13. Clover-mixed hay—Light, mixed, $17.50@18.50; No. 1 do., $16.50@17.50; No. 2, do., $14.50@15.50. Straw—No. 1 straight rye, $13@13.50; No. 2, do., $12@12.50; No. 1 tangled rye, $12@12.50; No. 2, do., $11@11.50; No. 1 wheat straw, $11.50@12; No. 2, do., $10.50@11; No. 1 oat straw, $11.50@12; No. 2, do., $10@10.50.

Bran.—Supplies were small and the market ruled strong, with prices again higher. Quotations, car lots, including sacks:

Soft winter bran, in 100-lb. sacks, per ton, $41; spring bran, in 100-lb. sacks, per ton, $39@40.

Corn.—No. 2, $2.30@2.35; No. 3 yellow, nominal.

Oats.—No. 2 white, 94@95c; standard, white, 93@94c.

Rye.—Nominal.

PITTSBURGH HAY AND GRAIN MARKET

Pittsburgh, Pa., July 30, 1917.

Hay.—Arrivals of hay of all kinds are light, still they are apparently sufficient to meet the demand. No. 1 timothy, $17.50@18; No. 2 timothy, $15@16; No. 3 timothy, $13.50@14.50; No. 1 light mixed, $15@15.50; No. 1 clover mixed, $15@15.50; No. 2 clover mixed, $13@14; No. 1 clover, $15.50@16; No. 2 clover, $13@14.

Straw.—Straw moving off slowly; receipts small; demand about the same. No. 1 oat, $10@10.25; No. 2 oat, $9.75@10; No. 1 wheat, $10@10.25; No. 2 wheat, $9.50@9.75; No. 1 rye, $10.75@11.25; No. 2 rye, $9.75@10.25.

Ear Corn.—Excellent demand for ear corn; not much arriving. No. 2 yellow, $2.29@2.30; No. 3 yellow, $2.25@2.29; No. 2 high mixed, $2.27@2.28; No. 3 mixed, $2.25@2.26.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., July 30, 1917.

Butter.—The market was quiet at the recent decline. Offerings of fine solid-packed creamery, however, were light and values were steadily maintained. Fancy prints were scarce and brought outside rates, but there was some unattractive stock around, which was dull and weak.

Western, fresh, solid-packed creamery, fancy specials, 42c; extra, 40c; extra firsts, 39c; firsts, 38c; seconds, 37c; nearby firsts, fancy, 44c; average extras, 42@43c; firsts, 40@41c; seconds 38@39c; special fancy brands of prints jobbing at 47@50c.

Cheese. — Demand was light but values were steadily held under moderate offerings.

New York, full cream, fancy, new, 22½c; specials higher; do., choice, new, 21¾@22c; do., fair to good, new, 21@21½c.

NEW YORK MILK MARKET

New York City, July 30, 1917.

Supply and demand are closely balanced with demand gaining on supply. Business was brisk last week with a prospect of using everything in the market should warm weather continue for four or five days. The distributors expect to raise the retail price of bottled milk on August 1 to 12½ cents a quart for Grade B and 13½ cents for Grade A. This is an increase of one cent a quart. Heavy cream will be increased from 18 to 20 cents a half-pint. All other prices will be raised to correspond. These rates are due to the tremendous advance amounting to approximately a cent a quart in the League rate for August. The Borden Company is organizing a plan by which consumers can buy milk delivered or at delicatessen stores at a lower rate, in bottles, and from stores in general from the can at a still lower rate. The League rates for August to the producer of Grade B (barn score 55) in the 26-cent zone are $2.55 a hundred for 3 percent milk; $2.76, or 5.86 cents a quart for 3.6 percent milk and $2.90 for 4 percent milk.

The receipts of milk and cream in 40-quart cans for the week ending July 28 were as follows:

Railroad	Milk	Cream
Erie	41,584	3,218
Susquehanna	4,966	42
West Shore	14,187	1,794
Lackawanna	68,980	4,110
N. Y. Central (Long haul) including Rutland	138,567	4,278
N. Y. Central (short haul)	22,190	50
Ontario	41,314	4,691
Lehigh Valley	49,764	1,960
Homer Ramsdell Line	3,680	70
New Haven	3,210	175
Pennsylvania	20,695	647
Other sources	1,425	58
Totals	410,562	21,093
Same week last year	380,729	20,354

ELGIN BUTTER MARKET

Elgin, Ill., July 28, 1917.

Butter, 38c; 50 tubs offered, no sales.

WOOL MARKETS

The Commercial Bulletin of July 28 said: "The improvement in the tone of the wool market, which became apparent a week ago, has continued into the present week with a continuance of fair buying of new territory wools in the original bags at fully firm prices. There also has been some demand for fine and ½-blood foreign wools. Buying in the West has become rather limited, altho recent purchases are at full prices." Ohio and Pennsylvania fleeces: Delaine washed, 80@82c; delaine unwashed, 74@75c; ½-blood combing, 71@72c; ⅜-blood combing, 74@75c.

Michigan and New York fleeces: Fine unwashed, 56@57c; delaine unwashed, 72@74c; ½-blood unwashed, 70c; ⅜-blood unwashed, 73@74c.

Wisconsin, Missouri and average New England: Half-blood, 65@66c; ⅜-blood 71@72c; ¼-blood 70@71c.

Virginia, Kentucky and similar: Half-blood unwashed, 71@72c; ⅜-blood unwashed, 76@77c.

CHICAGO HORSE MARKET

Chicago, Ill., July 30, 1917.

Horses were marketed moderately last week and sold at generally unchanged prices, with a good demand from the United States and Great Britain for army horses, riders selling at $150 and light gunners at $175. Horses sold at $60@100 for the commoner class and at $185@265 for drafters, with a fair kind of horses weighing 1,350 to 1,500 lb. taken at $160@165 for eastern shipment. Farm chunks were bought by eastern shippers at $100@175.

TOBACCO MARKET

The Connecticut buying movement is the first of the season and is thus regarded as prophetic of what may follow. It was predicted that these early sales at such high prices were fictitious and for some secret purpose but now that the movement continues unabated and is even extending to other localities the truth of the situation has been recognized and a general advance is expected. It is reported that buyers are in the Wisconsin section, offering prices higher than ever known and that it is the larger concerns which have made the advances. Also reflecting the improved market situations, we have the sale of 130 cases of the long rejected 1909 Pennsylvania crop at $22.50 per cwt as compared with $5 to 7 per cwt. as the price at which it could have been bought eighteen months ago. The Department of Agriculture has just issued a report indicating an increased acreage of tobacco as compared with that of 1916, but the same apparently had no effect upon market values. If this report is correct we may expect a product increased by some 64,000,000 pounds or about 6 percent. The Pennsylvania crop is placed at 41,500 acres, promising upon a basis of the ten-year average a product of almost 60,000,000 pounds. For Ohio the average is given at 106,000 as compared with 100,000 last year. These estimates do not correspond with those of private interests who still hold to the belief in a reduced product, giving as reasons the great scarcity of labor, the relatively high price of other products, the general scarcity of plants, the patriotic tendency to grow food products, etc.—H. E. Tweed, July 30.

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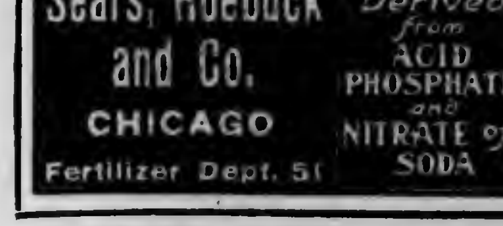

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Among the Granges

Montgomery County, Pa. — Pomona Grange No. 8 was held Thursday, June 7 in the pavilion at Plymouth Park as the guest of Cold Point Grange, No. 606. In spite of the terrible thunderstorm, at least one hundred attended. Community Grange No. 1712, the baby grange of Montgomery Co., organized in February, 1917, is still climbing. It reported 71 members to date, 43 applications on hand and $1,661.75 worth of business transacted during the quarter. Amount of business transacted in county during quarter $3,946.14.

The committee to look after the dairy interests in county reported that they were working day and night to have an agreement put thru to raise the price of milk and hoped to have everything in working order by July 1.

The memorial committee prepared very impressive resolutions on the death of Bro. Elliot C. Zimmerman, who died May 14. Dr. John Rosenberger, of Wycombe, brought greetings from Philadelphia and Bucks Pomona. He urged the patrons to take the best care they possibly could of their crops, because it was the man that had been farming for years and knew his job that would feed the people, not the one that was just starting in this year.

County Agent A. K. Rothenberger urged the patrons who could, to buy Liberty Bonds and the Sisters to can as many fruits and vegetables as they could. Some patrons said they expected to buy bonds and others said they had bought more land and put it under cultivation and thought that equal to bonds.

It was announced that Keystone Grange No. 2 would hold their annual picnic at Sanatoga Park, on Sept. 8. John A. McSparran, Master of Pennsylvania State Grange, and Louis J. Taber, Ohio State Master, will be the speakers. All grangers in county are urged to attend. The next Pomona meeting will be held first Thursday in September at East Greenville. Grange closed by singing The Star Spangled Banner.—I. C.

MARYLAND GRANGES ACTIVITIES

Grange field day places and dates were selected at a very important meeting of the executive committee of the Maryland State Grange held in Baltimore, July 12, at Hotel Rennert. The initiative meeting will be at Braddock Heights, Thursday, August 2; Cooptown, Aug. 14; Claiborne, Aug. 16; Tome Institute, 18; Mt. Airy at a date to be decided upon later. While the location has not been named, Somerset County granges intend holding a field day Aug. 23. There was an earnest discussion by the committee on the subject on raising more wheat, and while this necessary staple is needed by the "world at large" it is most difficult for the average farmer to grow a greater acreage. Since the advent of war conditions, fertilizers have increased in cost about 50 percent and if the crop is greatly enlarged, the grower may get a much lower price. The grange decided that while co-operation was not feasible with the food conservation committee as a whole, the individual county granges could well handle this important matter with the chairman of the commission.—Marylander.

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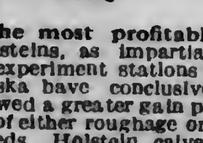

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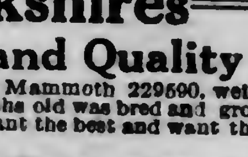

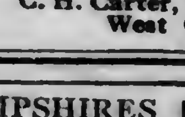

Fancy big type Improved Chester White pigs, sired by this 800 lb. show boar, and from fine large sows. Pigs shipped on approval.
C. E. Cassel, Hershey, Pa.

Reg. P. Chinas, Berkshires, C. Whites. Large strain, all ages, mated not akin. 8 weeks pigs, bred sows, service boars, Collie and Beagle dogs. Grade Guernsey calves and poultry.
P. F. HAMILTON, COCHRANVILLE, PA.

Berkshires large type fellows, Masterpiece-Longfellow blood lines. Also Reg. Holstein-Friesian bull calves, King Segis & De Kol 2nd, Butter Boy 3rd breeding. Jno. C. Bream, Gettysburg, Pa.

Chester Whites & Berkshires pigs 6 & 8 weeks old. 2 Chester white Boars 4 mos. Write your wants. I. R. TANGER, YORK SPRINGS, PA.

Silver Spring Farm Berkshires All sold. Nothing to offer until fall. J. P. WINAND, HAMPTON, PENNA.

Reg. O. I. C. "Ferndale Stock Farm." Salem, Ind. Big type. Prices reasonable. Prize blood. M. U. JOHNSON, ASHTABULA, OHIO.

Reg. O. I. C. Boar, weight 350; a good sire of large litters. Also May farrowed pigs. L. F. NICHOLAS, Mt. Bethel, Pa.

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Service boars, bred sows, pigs all ages.
H. C. & H. B. HARPENDING, Box 45, Dundee, N.Y.

High Grade Reg. Berkshires for sale. Satisfaction guaranteed or no pay. W. S. JOHNSON, BERWICK, PA.

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Reg. O. I. C. Swine Spring pigs and bred gilts. HIDRI VIEW FARM, Mt. BETHEL, PA.

O.I.C. & Chester White Choice brood sows; service boar. Fred Bryan & Son, Star Route, Mansfield, Pa.

Durocs 3 choice service boars & fall boars. Gilts will be bred for Aug. & Sept. Spring pigs mated not akin. Ira. D. Jackson, R. 10, Van Wert, O.

Large Berkshire Swine Registered High Grade. Prices reasonable. Write HOME FARM, CENTER VALLEY, PA.

Berkshires high class pigs for sale, July, Aug. & Sept.—Masterpiece blood cheap. W. J. Mc CONNELL, OXFORD, PA.

Poultry

The "MOHEGANITE" Strain
of S. C. White Leghorn
"3 HENS IN 1"
from trapnested ancestry recording 180 to 250 eggs in pullet year. Prime Pullets $1.40 August delivery. Yearlings $2 to $2.50.
Mohegan Farm, Box M, Peekskill, N. Y.

POUND CHICKS!
Orpingtons, Rocks, Reds, Leghorns, Wyandottes, Anconas, Minorcas. Pullets, $11 a dozen up; 6 Ckls. $6. Baby chicks, $10 a 100 up. Eggs, $7 a 100 up. Catalog free, stamps appreciated. Nabob Poultry Co., Gambier, O.

S. C. W. Leghorns "Tom Barron Strain." The large kind, prolific layers. Breeding stock for sale. 1 1-2 lb. cockerels from imported high record sires, $1.25 each, five or more $1 each. These cockerels will cost you $10 next season. Order from adv. IVYWOOD POULTRY FARM, Box 71 A. Avondale, Chester Co., Pa.

LOOK! 5,000 Pullets
March, April, May hatched, at right prices S. C. White Leghorns only from trapnested stock. Write for prices and free catalogue. Stamps appreciated.
NABOB HATCHERIES - - GAMBIER, OHIO.

S. C. White Leghorn baby chix, pullets, hatching eggs, 250 egg strain. Long deep bodies, yellow legs & beaks & large red lop-over combs. A. R. GRAVES, R. D. 2, REXVILLE, N. Y.

CHICKS 15c each, $13 per 100; Silver, White and Columbian Wyandottes, S. C. Red, Ducklings, Rouen, and Runner, 22c each, $20 per 100. Aldham Poultry Farm, R. 39, Phoenixville, Pa.

The Business Farmer's Hen for eggs, meat and winter layers. Trapnested White Orpington eggs, chicks and stock. Honest values and square deal guaranteed. STEVENS RELIABLE YARDS, Box P, Lyons, N. Y.

CHICKS White Leghorns, $8. Barred Rocks and R. I. Reds, $10.90 per 100. Circulars. E. R. HUMMER & CO., R. D. Y., Frenchtown, N. J.

Cockerel Sale S. C. White Leghorns at $1.25 each. The large kind. March hatched ready for shipment now. Order from adv. GUY C. ZENTZ, R. D. 1, FINKSBURG, MD.

Eggs 13 $1; 30 $2; Purebred Rocks, Wyandottes, Reds, Hamburgs, Leghorns; 19 varieties. Also Brahmas, Houdans, Orpingtons, Campines. 35 years. Catalog. S. K. MOHR, COOPERSBURG, PA.

S. C. White Leghorns Eggs for hatching. Send for catalog describing our mating for this season. Fertility guaranteed. Hidri View Farm, Box 17, Mt. Bethel, Pa.

Chicks S. C. W. Leghorns 6c & up. Money refunded for dead chicks. Circular free. W. A. LAUVER, McAlisterville, Pa.

Dogs

HOUNDS—HOUNDS—HOUNDS
Fox, coon and rabbit hounds, well bred and fine lookers at the right price. Stamp for photos.
H. C. LYTLE, FREDERICKSBURG, OHIO

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Obstructed Lachrymal Duct.—I have a three-year-old colt that took cold more than a year ago. Since then the tear duct seems to have been blocked and in the lower corner of eye there is a wart-like substance which I have painted with tincture of iodine, two or three times a week, but this fails to check its growth. What line of treatment do you recommend for this particular case? M. J. L., Wyndmoore, Pa.—In addition to the catarrhal condition and blocking of the tear duct, there is perhaps a tumor condition of the membrane nictitans in lower corner of eye and in order to effect a cure a portion of it will have to be removed. Then apply boric acid twice a day. The duct can perhaps be injected and cleared with either water or air pressure; however, this is doubtful. In some cases this is congenital and the duct may never have been opened.

Injured Leg.—I have a horse that ran something in his leg about four weeks ago. The wound is about six inches below the knee and extends up to knee. Considerable discharge comes from the wound and I might add that the wound has only partially healed. The knee joint and leg are very much enlarged and remain about the same. I have been using the horse for the last few days doing light work, but even the exercise I give him does not reduce swelling. Have applied liniment without making much of an impression. W. H. T., Glencoe, Md.—Mix together equal parts oxide of zinc and boric acid and apply to wound two or three times a day. To clear off the pus, you had better apply a spray of peroxide hydrogen; then apply the powder.

Large Warts on Heifer.—I am anxious to know what can be done for my heifer. She is troubled with large warts on her head and neck. Some of these warts are three or four inches in length. H. L. P., Troupsburg, N. Y.—The nicest and neatest way to get rid of warts is to cut them out. They are skin deep, easily removed and when cut out properly will never grow. By applying a saturated solution of salicylic acid in alcohol to warts every day or two, you can get rid of them in this way. In some cases by burning them off with a knife-shaped, red-hot iron, they can be gotten rid of.

Will Twins Breed.—I have a valuable Holstein cow, four years old, that gave us a pair of twin calves—one a bull, the other a heifer. I would like to know if it will pay to raise them. Have been told that they will never breed. M. D. T., Marsh, Pa.—The writer has always understood that twins, both of one sex, either male or female will as a rule both breed; but when one is a heifer and the other a bull, one of the two is very likely not to breed. It is also true that in most instances the female proves barren. You will be unable to determine which of the two are barren, unless you keep them until they are twelve months or more of age. By that time they will doubtless show sex characteristics. The heifer that is barren will take on a semi-male appearance, while the male is likely to appear somewhat like a female. But, as I stated, the bull usually breeds and the female is barren. If they are of good stock, I advise you to raise them, even if they have to be sold for beef.

Feeding Goslings.—I would like to have you tell me how to feed goslings until they are three or four weeks old. B. T. S., Westfield, N. Y.—As a rule it is always a mistake to feed goslings before they are 24 hours old. Then you may offer them some tender grass, or one part corn meal and two-thirds shorts mixed with some grass. If you are unable to obtain the corn meal, crush the corn thoroly, then they can pick it up as they see fit. It is also a mistake to over-feed young goslings; besides, they should be kept in a small enclosure until they are ten or twelve days old. This place should be kept clean and they should be fed a small quantity at a time and often. They should have some grit and be allowed to take considerable exercise after they are two weeks old.

Will Silo-Filling Time Find YOU READY?

SILO-FILLING time will soon be here. Fill your own silo just when the corn is ready to cut. Get full feeding-value from your silage and be independent of the cutter crew. If you haven't a tractor, your farm gasoline engine—3 h. p. and up—will do the work. Papec users are not worried about the labor shortage at silo-filling time.

Here's the way B. T. Cole, Stanton Station, N. J., managed last fall: "I filled my silo with a 3½ h. p. engine with corn as heavy as ever grew out of the earth and had power to spare. We weighed one load, 2340 lbs, and cut it in twelve minutes by the watch."

Frank S. Powell of Uwchland, Pa., writes: "I purchased one of your 'N'-13 Ensilage Cutters this season, and I wish to say that it is a real corn cutter. I have had a silo for the last four or five years and have always paid a steam engine and cutter for fourteen hours' work. This season, with the Papec and an 8 h. p. gas engine, I filled the same silo in 15 hours. The Papec is a wonder."

Kehrli Bros., Beaverton, Oregon, operate a 10-inch Papec. They report: "We have used other cutters and after filling three large silos with the Papec, we must say it is by far the best machine we know of. It runs easy and is handy to get at for any change or adjustments."

Bob Phillips, Sulphur Springs, Texas, declares that his 13-inch Papec "is indeed a wonderful little machine. Have used it now two seasons and have been at no expense whatever with the exception of grinding the knives."

"I am perfectly satisfied with the machine," writes J. L. Elgin, Des Moines, Iowa, who operates a 16-inch Papec, "and I have never owned or used a piece of machinery which came so near doing what was expected of it as this cutter. I can heartily recommend the Papec to all prospective purchasers."

Fred L. Farmer, Mgr. Congdon Orchards, North Yakima, Washington, bought a 19-inch Papec cutter last August. He says: "We forced the machine to its full capacity, on our 18 x 48 silo, but experienced no difficulty in elevating. We afterward equipped the cutter with an automatic hay feeding device and have used it several days each week since. It is the most efficient machine that we know of for cutting either ensilage or alfalfa."

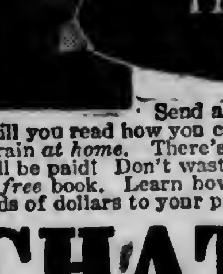
PAPEC ENSILAGE CUTTER IT THROWS AND BLOWS

Requires 1-5 to 1-3 less power than any other blower cutter.

Write for Catalog

Some dealer near you now handles the Papec or will get one for you. If not, write us and we'll see that you're taken care of. Anyway, send for catalog today.

PAPEC MACHINE CO.
78 MAIN STREET
SHORTSVILLE, N. Y.



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This Amazing Book Tells How! It's Free!

CAMPBELL SYSTEM OF BREEDING BIG CROPS

Send a postal at once! Don't plant a kernel of winter wheat till you read how you can scientifically clean, grade and separate all your seed grain *at home.* There's an eager market for all you can raise! Highest prices will be paid! Don't waste ground on weeds—or on poor, hopeless seed grain. Get my *free* book. Learn how to add 5 to 10 bushels per acre to your crops and hundreds of dollars to your profits. Read about my far-famed

CHATHAM Seed Grader and Cleaner

The machine that doubles farm profits. Positively cleans, grades, separates and sacks any grain or grass seed or rankest mixtures, *in one operation.* Cleans out dirty weed seed! Picks out weazened up, useless grain seed! Sets aside the big, plump, clean seed grains for planting. Insures big crops and big profits. Easy running hand or gas engine power! 600,000 now in use.

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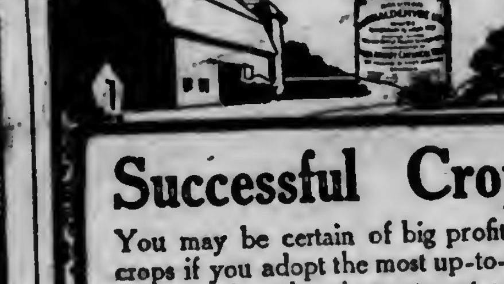

Successful Crops

You may be certain of big profitable crops if you adopt the most up-to-date method of seed grain treatment as recommended by the U. S. Dept. of Agriculture—

FORMALDEHYDE The Farmer's Friend

This powerful disinfectant destroys grain smuts, rust and fungus growth. It prevents flax wilt, also scab and black-leg diseases of potatoes. It rids stables and chicken houses of disease germs and flies. Formaldehyde is surely a great boon to the farmer. Our Formaldehyde at your dealer, 35 cents in pint bottles will treat 40 bushels of seed. Big illustrated Hand Book sent on request—free.

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Vol. 42—No. 6. PHILADELPHIA, PA., SATURDAY, AUGUST 11, 1917. 75 Cents per Year

Starting a Local Farm Loan Bank

Details In Organizing Local Association and Securing Loans

By XENO W. PUTNAM

CRAWFORD COUNTY, PENNA.

It takes but a few minutes to ring up central for a telephone call. It requires months or perhaps years of discouragements and hard work to build the line and install the equipment ready to receive the message. Somebody has to do this pioneer work, if the service calls are ever to be answered.

To borrow money under the Federal Farm Loan act may be a problem of individual service to the applicant. To organize the local unit or "farmer's bank" that opens the door for the borrower calls for promotion and construction work; but it has to be done by somebody if the purpose of the act is ever put into force.

The applicant for a Federal farm loan may adopt either of two methods. If he is one kind of a man he will wait for some one to organize the National Farm Loan Association with the name of his county or locality tacked on. If he is another kind he will organize one for himself without much waiting. Then there is the intermediate sort of fellow who goes in promptly to the aid of the one who adopts the second course. It was to attract the required ten people of this last class that the following advertisement was run in the "personal" columns of our two county dailies.

FARM LOAN—Any one wanting to borrow money under the Federal Farm Loan act is requested to address Farm Loan, care of this paper.

The first insertion brought answers. It proved that there were people in the county who needed the aid of the farm loan act; but it required six issues of the papers to bring sufficient inquiries to justify calling a meeting. This was done at a centrally located hotel by letter, in order to confine the attendance to those who were interested from business reasons. The expense of the advertising was paid by the organizer and charged up by him against what he hoped to save.

Exactly ten people, or about 50 percent of those who had answered the advertisement were present at that meeting. Incidentally, six of these people are still members of the Association and have been granted loans. Hardly any two of those present were acquainted, but nearly all were sufficiently self-dependent and progressive enough to be on the lookout for better methods, in money matters as well as in farming. What they wanted was the facts regarding the new loan system, and they did not have to wait to see what somebody else thought about it before making inquiry.

Purposes of the System

Any farm loan promoter who calls a meeting of this kind without a fair working knowledge of his subject is inviting an afternoon of lively trouble for himself. Probably all of the people at our first meeting knew something about the farm loan act. Most of them came because they wanted to find out more about it and a free use of the interrogation point is the great American way of finding out things. It is up to the self-installed leader to answer a reasonable amount of questions and to be prepared for answering several more. These material facts can be accumulated from the various instruction pamphlets sent out on request by the Federal Farm Loan Board of Washington. It is of even greater importance that some one at hand grasps the real purpose that underlies the entire act. It is one thing to tell people what the rate of interest is and for what term of years mortgages may be written. It may be quite another thing to appreciate the fact that the purpose of the entire organization should be, not only to help Farmer A to borrow a sum of money, but to establish upon safe and sound business principles a local organization owned and operated by the farmers themselves, to which any worthy active farmer of the community can go at any time in the future for the working capital he needs in the operation of his farm and with the assurance of getting a reasonable loan on terms that harmonize with the business of farming.

Some people have the idea that the farm loan act is a "hand-out" for farmers or a sort of easy mark upon which may be unloaded all the undesirable loans of the neighborhood. That is not the sort of law the farmer has been demanding and it is not the sort that has been provided for him in the farm loan act. The farmer is willing to pay for what he gets in business as well as for other accommodations, but he wants to get what he pays for and that is the exact purpose of the new law. It is highly important that this fact be thoroly brought out at the organization meeting; then the attention of "leaners" and grafters will be cut off at the very beginning. The first meeting, too, is the best time to start the co-operative spirit of ownership; the kind of feeling that sends each member out talking about "our bank" as he talks about "our church" and "our school". This, with some men at least, serves as more of a brake upon selfishness and misrepresentation than the penalties that stand back of the law. Once get the high ideals out of which the act has been created implanted in the first membership and every member can henceforth be depended upon to protect the welfare and honor of the branch of which he feels himself an actual part.

THE SHADED AND WELL-KEPT PORCH PAYS BIG DIVIDENDS IN BEAUTY AND COMFORT.

Forming Local Association

The routine of electing officers and nine directors out of a temporary membership of ten being over, we filled out the preliminary organization papers and forwarded to our district bank for further instructions. In the interval of waiting we occasionally met quietly, took stock of our membership, secured thru personal interviews enough desirable members to take the places of those who dropped out, and familiarized ourselves with the aims and responsibilities that should be ours once our charter was granted. Several times our membership dropped dangerously below the required number. Sometimes it considerably exceeded ten. Until our charter was granted it was the wish of most of our members that publicity be avoided rather than sought. Some already had mortgages against their property which might be foreclosed if their application in this new place became known and finally proved a failure.

Very soon after our first meeting secret influences began to crop to the surface. One of our members who had been paying 6 percent interest was suddenly offered the money at 4 percent, but was loyal and far-seeing enough to refuse the offer. Other members had been told that every member made himself liable for the debts of his fellow members; that the annual payments required were going to be more than any farmer could stand; that in case of failure to keep up interest the farmer would lose his home; that there was too much red tape about it; that the entire act was an administration affair railroaded thru for political purposes only. These and other criticisms came to us in most cases thru farmers who did not realize that they were themselves being skillfully used by loan sharks and money-grafters as mouthpieces thru which to spread the gospel of farm loan condemnation. The discussion which these topics brought up at our meetings did much to develop the confidence and determination of our members; but it showed us a little of the "silent force" that was steadily working to make the farm loan act a failure.

Appraising Farms

Perhaps the hardest physical task was that of our local committee in appraising farms. On pe this seems like a rather simple task and it is if the local unit is confined to a single neighborhood. When it includes an entire county of 1,000 square miles and embraces farms 50 miles apart, the task is a real one, especially when the work comes at the busiest season of the year. We finally by mutual agreement determined to set all else aside for the several days that it took to complete this public duty exactly as we would have had to do if drafted for special service in the army or drawn as jurors. For this service none of the loan committee took pay. Their actual money expenses were reported to the Association and taken care of by assessment. This included car fare, livery charges, etc. Dinner was in all cases furnished without charge by the applicant who was unfortunate enough to be on the visiting list at the dinner hour.

All of our applicants had been called together just before these trips and the filling out of the official application blank explained, then a copy was given each applicant to fill out, have acknowledged before a notary public as required, and to have in readiness to deliver to the committee at the time of their visit. In some cases this was done and in some it was not done. For the completion of these as well as for the final action of our directors we called a second meeting of all Association members, now grown to 17, that every application be gone over carefully for errors, completed and signed by the appraising committee, passed and signed by the Board of Directors and signed by the President and Secretary-treasurer, who also figured up the number of shares of stock to be subscribed to by the Association. Without that careful final revision some of the first applications are almost certain to be returned to the Association for correction. A little error does not cost much in the beginning, but the farther away from home it gets the more expensive and damaging it may become.

Preparing Abstracts

At one of our earlier meetings we had discussed the Association's choice for bonded attorney. We wanted one not too deeply emersed in reputation among farmers as a money-lender. It was carefully explained in open meeting that each applicant paid his own fee to the attorney for preparing the abstract of his title which the Federal Land Bank requires. But, since it is required that this attorney be under commercial bond for his work, it is out of the question for each member to employ an attorney of his own. After one disappointment we went quietly to a young attorney whose integrity we all fully trusted and whose hearty co-operative sympathy we soon obtained. An honest and aggressive young attorney who has faith and enthusiasm for the new movement is one of the most valuable assets that the young farm loan association can possibly have. In many ways and places the attorney can be spokesman for the Association and its reputation for probable fairness to its members will be popularly measured by his own.

The secretary-treasurer need not be a member of the organization and in that case he may easily be merely an automatic recording machine. If he is the right sort of a member his opportunity for building an organization of this sort is limitless. The whole question is whether he is the right sort of a person to make use of them. If he is one of the kind who accepts the place for the salary it may afford him, he will probably be found wanting. That should cover his clerical duties which are pretty well defined by the pamphlets of the Farm Loan Board.

There are local expenses which are not very well provided for by law. They should not be heavy but some are certain. Some fairly central place of meeting is a necessity and it should not depend upon the hospitality or the convenience of some member. Necessary meetings should be held in quarters that may be demanded at any time. A safe place for valuable papers and records must be provided. This may be a safety-deposit box in a bank or part of the attorney's safe leased by arrangement. Eventually the Association may acquire an office and a safe of its own, but hardly in the beginning. One of the first suggestions which the Federal Land Bank will likely make the new association as soon as it receives its charter is that printed letter-heads and envelopes be procured containing list of officers, name and number of the association, names of directors, etc. For this expense and for the accounting system, record books, authorized traveling expenses of the appraising committee and other members, bonding of the secretary-treasurer and postage; all have to be paid for in some way by the local Association. The most convenient way is by assessment, a certain amount to be levied against each applicant for each $1,000 of loan asked, with a minimum limit fixed for all.

Bonding the attorney is attended to by the Federal Land Bank, for the expense of which a graded assessment is taken out of each loan. The secretary-treasurer secures his bond thru one of the commercial companies. The cost of this bond at the present time is $2.50 per each $1,000 of bond demanded and a bond of at least $3,500, costing $8.75 is required. This gives the Association a loaning privilege up to $50,000 within the year. If a greater amount of loans is wanted the bond may be increased by easy stages up to $10,000 which allows the loaning of $150,000 or any larger amount. This is the largest bond required.

Value of Abstracts

Without interfering with the working of the system and without much added expense there are little services which the farm loan organization can extend to its members. One of these is the keeping on record all of the abstracts, prepared by our bonded attorney, of the farm titles over which we issue loans. These abstracts are specially complete, in most cases going back by requirement at least one-hundred years. After they are accepted by the Federal Land Bank they acquire a semi-official importance of lasting value to any one who ever owns the farm they cover. Instead of each farm transaction requiring a new search, these records, prepared under bond, more complete than any ordinary transaction requires, and upon which the Federal banks have placed their expert approval by risking Federal funds upon them, have up to the date of their preparation, the weight of authority itself.

Does it Pay?

After having been run thru the entire machinery of the farm loan system we are more firmly its friends than we were in the beginning. The process was rather a long one but it was in our case the constructive process. Not only our own association but the entire system of the twelve districts were all in the building; and, thru the whole of it one feels that he is building, not for a year or for three years or five, but for life, or until the debt has been paid; for the mortgage never becomes due and there can be no foreclosure excepting for lapsed interest. Surely one can afford to pay a higher price in time and care if he must, for an arrangement that is so complete.

An expense comparison is always of interest to some people. Here are a few figures taken from our Association books, giving the actual cost of a $1,000 loan for 36 years under the new system; and also taken from other records the cost of a similar loan in the old way.

Under Farm Loan System

Abstract of title	$10.00
Local expense assessment, $1.50 per $1,000	1.50
Bond of Attorney	2.50
Stock in Association	50.00
Total	$64.00

Distributing this expense over a period of 36 years we have a cost of but $1.78 each year to which must be added the annual payment of $60 (interest and payment on principal). The exact cost of the debt for the entire period is:

$60 per year for 36 years	$2,160
First cost including stock	64
Total cost to cancel debt	$2,224

From this must be subtracted the cost of stock, which is refunded at expiration of contract, leaving $2,174 as the entire cost aside from small docket and satisfaction fees which must be met under either system to clear up the records.

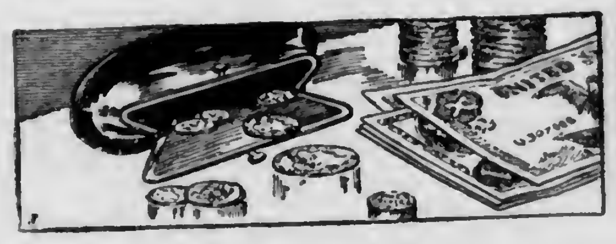
For a similar sum and rate of interest and number of years we have under exceptionally favorable conditions by the old plan the following:

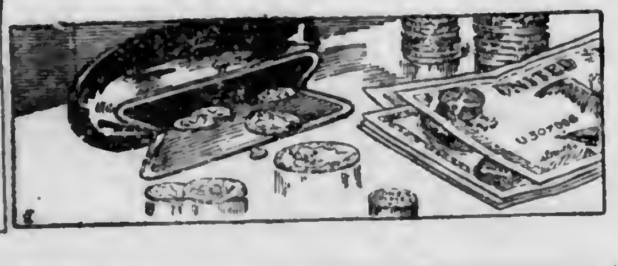
36 years interest at 5 percent	$1,800
Principal	1,000
Renewals (7) at 1 percent	70
Searching docket	5
Total	$2,875

Docket satisfaction we will assume will be the same in both cases. Here is another comparison under terms which can be duplicated from the old-time records of several of our clients:

Principal	$1,000
36 years interest at 6 percent	2,160
12 renewals at 2 percent	240
Other attorney fees including original bonus	200
Total	$3,600
Total farm loan cost	2,174
Difference	$1,426

Just how big a spool of "red tape" can the average farmer afford to unwind for a difference of $1,426 in his expenses.





The Farmer and The Automobile

One or more automobiles are found on a majority of farms in this section. It seems that their expense should be noticed as well as their usefulness. But there appears to be no rules applying as to the kind or standard of farm supporting an automobile. We find them on dairy farms where there is no silo. We find them on general farms where there is no corn planter, no alfalfa growing, no hay fork in the barn, no water supply for the house or barn, no paint on any of the buildings. They are found on farms, or rather on the roads with men from farms that are not paying expenses. They appear to be kept and driven just as so many other farm operations are—without regard to production cost or maintenance. On the other hand, we find them on the well-kept, progressive farms; and again we find up-to-date, enterprising farmers without a car.

Personally I find that an automobile is a great convenience, especially to one with a family of usual size. We can call on a distant friend or relative in the afternoon, and can take the whole family, and not be expected to stay to dinner or supper. You can make friendly and pleasant calls without being expected to make a visit. The auto is particularly valuable in the case of sickness or injury of a serious nature. The doctor can be brought in a hurry, or if necessary the patient can be hurried to the hospital. In getting extra help for any special farm work, such as threshing or silo filling, we can get to the village and pick up three or four men. When the day is done, we can take them back, and the arrangement is much more satisfactory than to have to keep them over or feed their horses in the busy time.

The overhead and running expense of a car, which ought to be the first consideration is usually the last. I find my expense record reads about as follows: Interest on investment, $55; tax, $10; car license, $15; driver's license, $4; tire adjustment, $10; gasoline, $34.92. Total, $128.92. I have traveled 2,460 miles, making a cost per mile of practically 5.2 cents. Of course if I had traveled only 10 miles the cost would be about $10 per mile. Had I traveled 2,500 miles the cost would be more nearly 5 cents per mile, while if I traveled practically all of the time as some people appear to do, the cost per mile correspondingly decreases.

Some farm owners make and save time with their autos. Others spend and waste much valuable time,

so it all figures back to the man just as it does in most timely questions. I am inclined to believe that the lighter-weight, moderate priced car is the best for the farmer with a small family, but there are many considerations which make size an individual problem. The overhead cost is considerably less with the moderate priced car, and the running cost is slightly less.

A consideration of greater importance to every car driver and owner than price, size or operating cost is Safety First. Those two words should be set in the glass of the wind shied. Always run slow in towns. Approach and pass all persons, wagons, teams and other cars at slow speed. It is the unexpected that always occurs at high speed that causes the wrecks and the injuries. Very few unexpected things happen at slow speed, as the situation is always in hand and accidents avoided. Don't wait until you are a party to some sad experience. Heed the slogan of the railroad man who keeps out of trouble.—D. S. Croshaw, Burlington Co., N. J.

Liming Potatoes

The illustration on this page shows the method of applying lime which is used by many farmers in this section of New Jersey. This field is to be seeded to alfalfa after potatoes. Two applications of lime are made—700 pounds per acre each time. The first was put on when the potatoes were about three inches high and it drove off the flea beetles which are very troublesome here.

The next application was made as seen in the illustration. This cleaned up the young potato bugs and helps prevent blight. We think it better than many of the preparations used for these purposes. Lime applied in this manner has never caused scab on potatoes for me. Horse manure and lime when mixed in the soil are a bad combination for scab, but putting the lime on top does not seem to effect.

This field will receive 1600 pounds more per acre before seeding to alfalfa. We hope with this, and thoro soil preparation and inoculation to find a solution for the dairy problem—plenty of alfalfa hay.—C. L. Pettit, Salem Co., N. J.

Two Ways to Inoculate Soil for Legumes

Two general methods of soil inoculation exist: (1) inoculated soil and (2) artificial cultures. If soil is used it must be well infected with the organisms peculiar to the crop of the same legume which is to be inoculated has been growing recently with many nodules on the roots. Such soil scattered on the field at seeding time at the rate of two to three hundred pounds or more if it is easily procured, per acre and harrowed in soon after, will usually give satisfactory results. If only a small amount of soil can be had it is advisable to apply it to the seed. The seed should be moistened with a 10 percent glue solution (one pound liquid glue to one gallon of water)to make the soil stick to the seed. Sprinkle the soil on the seed thru a sieve and mix the entire mass thoroly. The seed may be sown as soon as they are dry.

Artificial cultures are usually applied to the seed, but they may be applied to a few hundred pounds of soil and scattered on the field. When they are applied to the seed, they are diluted, sprinkled on the seed, and the two are thoroly mixed. This method is usually better for the smaller seeds than the soil and glue treatment, which tends to clump together small seeds like alfalfa and may cause trouble in seeding.

The treated seeds must be thoroly mixed, so that each will be infected. Cultures must be used only for the crop specified, since legumes do not cross-inoculate at random. Neither the inoculating material nor treated seed should be stored for a long time or exposed to excessive sunlight.

BY THE WAY

The story of the Arkansaw traveler is an old one, but it is a good one; good because it portrays an universal trait of human character and everyone recognizes something of himself in it. The native could not mend his roof when it rained because it was too wet. He didn't fix it when it was dry because it didn't leak then. Humanity reminds me very often of this easy-going, improvident individual. Part of the time we have so much stuff we cannot use it, and it is so plenty and cheap that we say it is not worth while to bother saving it. Again, we have little or nothing and it is so dear we don't have it to save.

APPLYING LIME ON POTATOES ON CARL ", PETIT FARM, SALEM CO. N, J.

A few months ago, some articles of food were so scarce they were almost out of the market—at least they were out of reach of the pocketbooks of most people, yet enough food material had actually gone to waste in former years to have supplied the deficiency. Then began a nation-wide agitation to raise things and the result is, the markets are again glutted in many lines and producers are losing money. What's to be done with the surplus? Is it necessary to let go to waste that which we cannot immediately use? It often seems as tho we ought to have a little of that quality known as German efficiency and be able to utilize and conserve everything we have. I say German efficiency, because that brand seems to be the best there is. (This last observation just barely got passed the censor.)

LIME APPLIED ON PART OF POTATO FIELD, ED, COLSON FARM, SALEM CO., N. J.

Admitting the need and the possibility, how is the surplus to be taken care of, and whose business is it to do it? It is possible we, in ennsPylvania, may dismiss the question from our minds since we have a bureau of markets created by a recent law in which the following paragraph occurs:

> "Whenever it shall appear that any agricultural products are liable to spoil, or waste, or depreciate in value for lack of a ready market, (he shall) take such steps as may be deeme advisable to benefit the producers, distributors and consumers thereof, and t o prevent waste."

Think of it! Producers to get a good price for a surplus, consumers to get it cheap, and dealers to make a good profit. It's all as clear as mud to me, and probably the legislators and department understand it equally as well. And this agricultural millennium is to be established at a cost of only $25,000 per year!

In the mean time, it might be as well for the practical man and woman to study ways and means of saving as much as possible from the dump heap until the bureau gets to going. We cannot expect commission men to do the conserving, neither can we look to the retail men to buy more than a ready market will take. But it would seem as if there is opportunity for somebody—maybe organized producers themselves—to evolve a plan by which surplus products could be canned or evaporated and the market slumps and waste prevented. Well-tried systems of preparing fruits and vegetables for future use have been perfected and the use of these foods need be no longer limited to the few weeks in which they grow.

Vegetables and fruits seem to be the products in which greatest loss occurs when there is an overproduction. They are also the articles which are most frequently unprocurable in certain years when adverse climatic conditions limit production. The question before us is: How can the surplus in seasons of plenty be carried over to seasons and years of scarcity? Cold storage offers a partial solution, but the quantity is necessarily limited and the cost too great for all products and amounts. A new process known as dehydrating seems to offer great possibilities. The process consists of driving super-heated air over trays of sliced fruit or vegetables, thus quickly taking out the water. The product, when properly packed, will keep indefinitely and when soaked in water is said to regain its natural condition and flavor. This may prove to be a solution to the problem which has always perplexed us. After all it is but an improvement on an age-old custom in vogue with our fore-fathers and still practiced in thrifty country homes. What's needed now is to commercialize the process and use it on a big scale.

The most common waste on the average, general farm occurs in the farm orchard. The apples which are uncared for in seasons of big crops amount to millions of bushels. Of course, a great part of the fruit on the general farm is not first class because the farmer does not give much time and attention to it, but it has food value and should be saved. Good, old-time apple butter is hard to beat as a spread and the rather new process of evaporating cider into apple jelly produces a product that can be used in a variety of ways. The human system demands fruit or fruit products in some form all the time and no fruit may be used in so many ways as apples—the poor man's fruit. For this reason they should all be conserved: the best in storage, the inferior grades converted into apple butter, apple jelly, preserves, vinegar, etc.

—Father Penn.

This year no grower in the northern states should overlook the chance to increase the potato crop by spraying, which is good insurance against a short crop. Every year the potato yield is reduced by preventable diseases and insect pests; yet it may be increased as shown by the fact that sprayed potato crops in Vermont, for example, have produced on the average 105 more bushels to the acre than unsprayed crops over a period of 21 years.

Bordeaux mixture with lead arsenate added will prevent late blight and get the potato bug also. The mixture should be applied every two weeks.

Horticulture

USE AND ABUSE OF FERTILIZER

According to the latest reports the farmers of the little state of New Jersey wil spend about six millions of dollars for fertilizer this season. The farmers would not have paid out one dollar for this material unless he hoped and expected to get back more than the money he paid out. Many farmers are willing to spend hundreds of dollars for fertilizer, however, many of them do not put their fertilizer to its most efficient use. Dr. Lipman, director of the New Jersey Experiment Station stated at a farmers' institute in Bergen County, N. J., that the farmers of this state could save one million dollars a year by the more judicious and efficient use of fertilizers and leguminous soil improvement crops.

The illustration is that of an early sweet corn field near Burlington, N. J., growing in 1916. One row in the foreground is very much undersized. The reason is just this: The seed was planted with a corn drill and with a fertilizer attachment which drilled 600 pounds of a 5-9-0 to the acre. While the planting was going on the driver ran to the barn for more seed. Before leaving, he shut off the fertilizer feed so that none would be lost in the driveway if the horses did not stand still. Upon returning he forgot to reopen the fertilizer catch until he went about 20 feet down the next row. Then, he stopped and put in a stake so that he would know whether the fertilizer was worth while. The picture shows that the stake was not needed. The corn shows exactly where the application of fertilizer was not applied.

Furthermore, the owner is an excellent farmer and takes pride in an even stand, therefore upon the day the picture was taken, he applied a very heavy application of high grade fertilizer on each side of the poor spot, to bring it up with the others. He has told me since that that spot never caught up to the rest of the field and that the ears of corn were inferior in spite of the double application of fertilizer applied during the growing season.

This brings out a well established fact that best results are obtained from the use of fertilizer and manure when it is placed where the plants can get the greatest benefit from it right from the start. Side dressings during the growing season may be perfectly practical in some cases especially if the nitrogen is in the form of nitrate of soda or in ammonium sulphate and if the phosphoric acid is in a soluble material such as acid phosphate. However, side dressings of materials containing blood, tankage or bone are impractical because the slowly available ingredients can not be accessible to the roots.

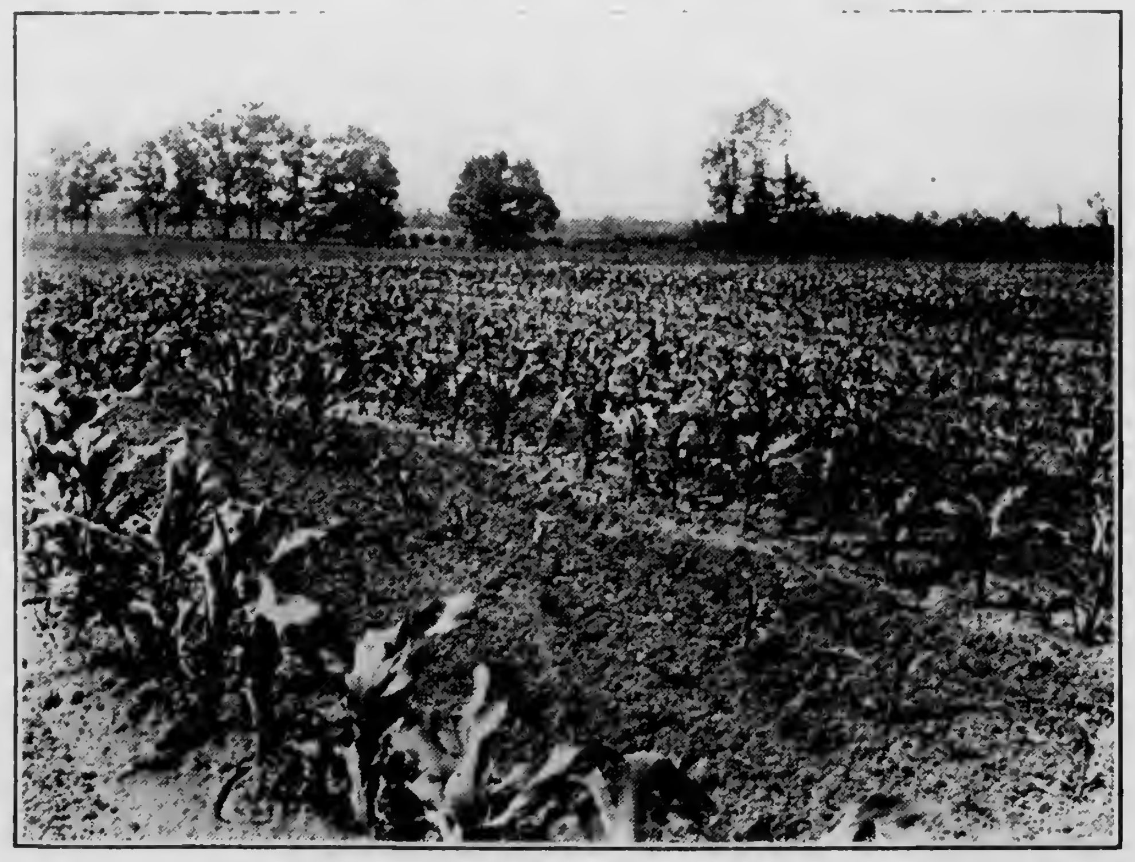
Fertilizer sowed along the row and stirred thru the soil can never impair germination while on the other hand the material will be most accessible. Where the rows are close together as in the case of onions, celery, lettuce, spinach and the root crops the fertilizer should be broadcasted and disc harrowed into the soil before the seed is planted. In this way, the extensive root systems can get to the plant food at all times but if we apply it later between the rows, twice the quantity can not be expected to do equal the amount of good.

More than half the moneys spent for fertilizers is for the ingredient called nitrogen or ammonia. This is exactly the same material that clovers, peas, beans, cow peas, soy beans, etc., take out of the air, therefore where can house tomatoes, for instances, follow a clover sod a fertilizer containing a small percentage of nitrogen should give just as good results as one containing a large amount. Surely a better knowledge of the use of fertilizer would soon result in the saving of many thousands of dollars for the farmers.—R. W. DeBaun.

GROWING ASPARAGUS

The Pennsylvania Farmer quotes in issue for July 28 that Mr. J. B. Norton, of Washington said "I never plant two-year-old roots and do not believe in starting the seed in its permanent place." Now, I have for years advocated and practiced sowing asparagus seed right where I wish it to remain, and have years ago proved that in this way I get cuttings a year earlier than by transplanting. It would be more interesting if Mr. Norton gave some reason for his not believing in this practice. If any one can tell me why a root dug at the end of a year's growth, and of course more or less mutilated, and transplanted should do better than a root left undisturbed to continue its growth, I could see some reason for the practice.

THE NARROW TOOTH CULTIVATOR DOING GOOD WORK IN ORCHARD.



EFFECT OF A 'MISS" IN APPLYING FERTILIZERS.

The transplanting of asparagus roots has grown out of the fact that they have been regarded as a nursery product and have always been offered for sale by nurserymen. Big asparagus roots are largely a matter of feed in the soil, and I agree with Mr. Norton that variety has little to do with the perfection of the shoots, and that if a man wishes to transplant roots he should never use any over one year old. In fact if he wants the best asparagus in the shortest time possible, he will start with the seed and get his bed cheaper and better than by buying roots. It is easy for a man to follow old practices and to say he does not believe in any other tho he has not tested better methods. Transplanting asparagus roots does not help them grow, it checks growth. The undisturbed root at one year old is ready to go right on in its growth with the first breath of spring. Compare the size of the shoots from one year transplanted roots, and from one year roots undisturbed and you will at once see the reason for the earlier production from the undisturbed roots.

Something over 50 years ago I was engaged in growing nursery stock Conover's Colossal asparagus had just been introduced as a very superior strain. I grew a large block of it both to sell the roots and to plant in my own ground. The land where these roots were grown was very fertile and was also aided by a good manuring in order to have extra strong roots. That fall I planted about 10,000 roots in the usual way and sold a good many in fall and spring. Still there was a considerable space left with unsold roots. When growth started in spring my foreman came to me and said "There are lots of stalks in that asparagus nursery large enough to cut. I went to look at it and did have a lot of it cut from these roots only one season's growth from the seed. At the same time, the shoots from the transplanted roots were the usual size from transplanting, or about as stout as a coarse knitting needle.

This experience set me to thinking, and it seemed to be only natural that a root not dug up and mutilated at the end of a year's growth would naturally make a stronger growth than the transplanted one, and that the transplanting had simply grown out of the common practice of regarding asparagus roots as nursery stock.

Seven years ago when I bought my present place, I was at first undecided as to location of the asparagus bed in the garden. I sowed some seed of the Palmetto variety, and the following fall transplanted a well prepared bed but leaving some undisturbed roots in the rows where the seed were sown. That was seven years ago, and both beds have been treated alike and are in soil of identical character, and yet today the shoots from those roots which were never transplanted are a third bigger than in the transplanted bed.

I have so often proved the superiority of starting an asparagus bed directly from seed that it is rather surprising to me to hear men say that they do not believe in it. In every case I have found that the belief was simply because they had always been taught that asparagus must be transplanted.

As I have said, it is mainly a matter of feeding. I use the Palmetto because it has been more resistant to disease than other sorts. I prepare a bed by heavy manuring the fall before turning this under in the spring early. Then dig trenches 15 inches deep and fill them half full of old rotten manure, cover this with earth and sow the seed thinly. As soon as the plants are up three or four inches, thin out to two feet apart. Then work the soil to them as they grow until level, and cultivate clean all summer, applying a side dressing of nitrate of soda to push the growth. In the fal, cover the bed thickly with stable manure to be dug in in the spring and the cultivation repeated. The second year you can begin cutting, but stop in June, and then fertilize and cultivate to get the tallest growth practicable during the summer so that you will have strong crowns for the next spring's shoots.

If you want to cut asparagus with long white base you must make the trenches deeper and get the roots down. but people are finding out the superiority of the green shoots and if growing for market you can always be able to secure better price for the green shoots.—W. F. Massey.

WHAT I HAVE LEARNED IN THREE YEARS

It is a noticeable fact that when people without previous experience, rush into any branch of farming, they usually make a failure. Some thought of this was in my mind when I began, for, tho I was raised on a farm, I had always taught school until I was married. My husband died after a few months of married life, and when my girlie came to be company for me, the need of a permanent home while she is growing up, became imperative. My husband and I rented but I couldn't do that so I took most of my capital to buy a five-acre home and a few chickens, and went to farming very modestly. My health was too poor to accomplish much the first year, eggs and a few vegetables furnished practically our only income, tho we had a small bearing orchard of fifty-or sixty trees. There were worlds of apples but we could not give them away. I raised a fairly good garden, canned a big lot of tomatoes, stored a good supply of roots for winter, both for poultry and table use, and sold peas and cucumbers for a few weeks. I tried melons and cantalopes, and harvested a good crop of both for home use. Early in the spring I set a garden collection of eight pear trees, about five hundred berry plants of various kinds and varieties, and ten apple trees of the Rome Beauty variety. But for my flock of forty hens, we would have run badly behind.

The second year my health was greatly improved, baby was older and less troublesome, and I had prepared for

the season's work by having all the land I intended to use fall-plowed, tiling my garden, and purchased a good wheel-hoe with all attachments. A few trees had died out of the old orchard, leaving a vacancy which looked like an ideal strawberry situation. The spot had been plowed in the fall and before harrowing in the spring, I had it liberally fertilized with hog manure and as soon as the ground could be worked I set 1,500 strawberry plants. I kept them cultivated well with the wheel-hoe and they grew luxuriantly. By July 1 they had formed almost solid matted rows, and were certainly a picture. I was proud of them and pride goeth before destruction; white grubs attacked them and in two weeks they were practically ruined. Eventually the grubs finished them and, in the meantime it rained so constantly that nothing but weeds and berry plants could grow, it was impsosible to hoe, and gardens became "lost in rubbish". Mine, being tiled, wasn't so bad as my neighbors, and I did have some nice vegetables, when I could wallow out into the wilderness far enough to find them. It is a fact that for weeks here we could not get onto any plowed field any of us, without sinking into the mud over our rubbers. I set a nice little cherry orchard of 105 trees but cherry beetles came in hordes and literally ate up nearly a third of them, and of course the survivors were badly damaged. However, I set at the same time 30 apples, 27 peaches, 8 pears, 3 quinces, and 12 grape vines, all of which grew nicely that season, then some of the peaches winter-killed later. The old orchard was more profitable that year, I sold apples in various ways, some of the buyers took theirs on the tree, and I did some picking and delivering myself. About forty bushels were stored in the cellar. My main garden crop was peas, which proved to be such a drug on the market, that few growers harvested them at all. I sold a few, but bushels and bushels of them rotted on the vines. If the season had been dry I could have saved them for seed but it was impossible to cure them when it rained so continuously that the atmosphere was always so damp that even the buildings smelled moldy. I sold several bushels of onions, since nearly every one's but mine rotted. My flock of 19 brown Leghorns pullets, bred to lay, finally saved the situation, tho if my family had been large or our needs very numerous, they could not have done it.

The next season was a decidedly better one, I filled 37 vacancies with cherry trees and set a few more apples, pears, and peaches. We had to spray frantically for cherry beetles again, and, even with the greatest care, I lost 20 more trees. My garden this year was better than ever before; I sold over $25 worth of surplus besides supplying the table for five of us with peas, beans, asparagus, green corn, onions, lettuce, radish, cabbage, cucumbers, tomatoes, carrots, beets, etc. For the first time since I can remember anything about this orchard it failed completely, even in supplying fruit for home use. We had some pears and some raspberries and blackberries, but neither on a commercial scale. My hens did well and we sold the surplus of everything direct to the consumer, except that early in the season I shipped eggs for awhile. The young orchard which I now have coming on, is about as large as I shall be able to handle alone when it comes into full bearing. Help is absolutely unprocurable here, and if I pick and market the fruit from over a hundred cherry trees, 25 peach trees, 28 pear trees, and 50 apple trees, it will be all-sufficient, at least until my little girl is old enough to help. If I add to this it will be done sparingly and of choice varieties.

This season I shall set a bed of ever-bearing strawberries in my garden, add to my list of vegetable a few new ones for which we had a fair demand last year, and set several hundred more cane berries. My reputation for extra fresh eggs is already established, and, all things considered, I feel that I am succeeding as well as I could possibly hope to do. Good health and a reasonable degree of familiarity with the business, are prime requisites of success in any line; and I have, to quite an appreciable extent, attained both; so that the future should be much more remunerative than the past has been and we confidently expect that it will be.—E. M. A.

Timely Fruit Notes

By Dr. J. P. STEWART

Lime—Nitrogen in Orchards

"The question of using calcium cyanamid instead of nitrate of soda has been metnioned to us. Please let us know, if in your opinion, the calcium cyanamid will do the same work as the nitrate of soda.

"We use the nitrate on our orchards, vineyards and a few other crops in order to give them a boost in the spring. If, in your judgment, the calcium cyanamid will be satisfactory, kindly also let us know their relative values. What we mean is, if the nitrate of soda should cost 4½ cents per pound what could we afford to pay per pound for calcium cyanamid?

"We have been buying about 10 tons of nitrate of soda per year and 15 tons of acid phosphate but the present prices seem a little strong."—R. P. W., Erie County.

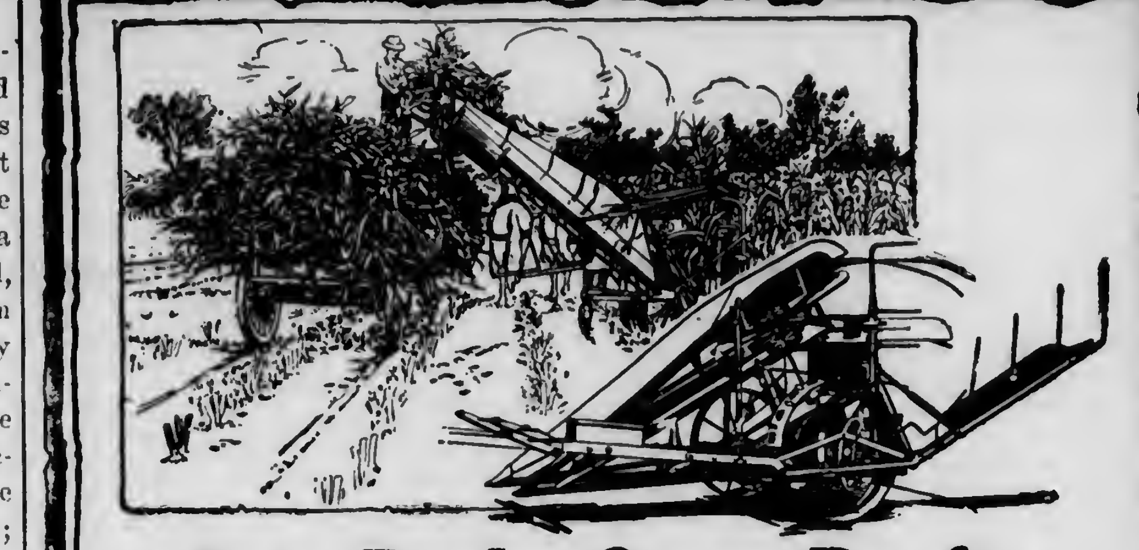
Calcium cyanamid is one of the chemical carriers of nitrogen, altho the nitrogen in it is in somewhat less readily available form than in nitrate of soda. In actual nitrogen content the cyanamid is much more variable than sodium nitrate—the former ranging from 10 to 16 percent, while the latter remains practically constant at 15½ percent. The cyanamid should therefore be bought only on a guaranteed analysis, and it should be applied considerably earlier than the normal applications of nitrate. On the latter point, the manufacturers recommend that it be applied at least 80 days before the crop is harvested, and it is probable that this time will need to be considerably increased on fruits.

As to the actual value of the cyanamid on orchards and vineyards, we have no definite data of our own at the present time, and we are unable to locate any elsewhere. We have made some comparison of it and nitrate of soda as a top-dressing in the fertilization of grass plots here, with the result that it has proved considerably less efficient than the nitrate for this purpose.

In view of the general dearth of data on the actual usefulness of lime-nitrogen on orchards and vineyards, however, I would not advise its substitution for nitrate of soda in any large quantities, even at these relative figures, until afte rit had been tried out fairly thoroly on a small scale, on the soil and crop under consideration.

Any variety of fruit can be made to pay if the owner knows his business and will attend to it faithfully.

The apple is the most important fruit grown in the United States, considering the quantity produced, value of product, and wide distribution of cultivation.



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Married Man wanted on farm; to work with team and raise such crops as are usual to a dairy farm. Wife must be willing to board help. Position open immediately. Eugene B. Fenret, BENCHESTER FARM, P. O. Box 193, Easton, Pa.

Pennsylvania Farmer

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PHILADELPHIA, PA., AUGUST 11, 1917.

FARM LOAN BANKS

The article on first page of this issue was written as a guide to farmers interested in the organization of local farm loan banks. As the writer says, there must be pioneer work in starting any new institution. The farm bank is no exception. But any public spirited farmer, or any progressive farmer who desires to avail himself of the privileges of the farm loan system, can start the work, and almost any community will provide helpers and followers. The detailed steps necessary to start the local organization are fully described in bulletins that will be sent free upon request addressed to Federal Farm Loan Board, Treasury Department, Washington, D. C. In counties having county farm bureaus, the county agent will be able to give valuable assistance in starting organization work.

* * *

"TOTE YOUR OWN"

The new plan of distributing milk announced by the Borden Company is in line with the new idea of curtailing so-called "service" in the retail business. The new Borden retail schedule, made effective on August 1, calls for 12½ cents per quart for Grade B milk and 13½ cents a quart for Grade A milk. These prices are for milk delivered at the home of the consumer as in the past. But consumers may purchase Grade A milk at stores at 12 cents per quart in bottles, Grade B milk in bottles at stores at 11 cents or milk in bulk at stores at 8½ cents. Thus the consumer is offered from 4 to 5 cents per quart for carrying his milk home from the store. The manner in which the consumers accept this innovation will demonstrate how badly they want to cut the high cost of living. The new economy watchword for consumers is Tote Your Own, and if retailers will make the proper inducement in price reductions, a wise saving will result.

The well-to-do consumers will continue to have their milk and other purchases delivered. So long as they pay for such delivery they are entitled to it. But the practice of making all consumers pay for extravagant service, whether they used it or cared for it or not, was all wrong. The new method of charging for service according to service rendered corrects an economic wrong, and puts all on a fair basis. If the idea is fully developed and adopted it will be another needed reform resulting from the economy propaganda.

* * *

WORK OR FIGHT

Our colonial histories tell us that one of the early settlements in America enforced a rule that all members must work or starve. It was a rugged life and there was no surplus of food or clothing for those who refused to do their share of the work. Hence a community law was passed compelling every settler to work or suffer the consequences of his idleness. We have come a long way as a people since those early pioneer days. We do some things much better, but other things not so good. In our abundance of the necessities of life we are less particular in requiring every member of society to do his or her share. Complete statistics on human idlers would show surprising figures, but loafers have been permitted to remain idle largely because the rest of society is too busy to drive them to work.

The state of Maryland, however, regards the present time of efficiency demands as the proper time to put the ban on idlers. Under authority of a state law passed by the last session of the legislature, Governor Harrington has set August 20 as the day for all unemployed able-bodied men between the ages of 18 and 50 years to register with the clerks of the circuit courts of their districts. County sheriffs will round up all dodgers who will be subject to fines of $50 for failing to register. If the fine is not paid there will be a jail sentence and registry for work after the sentence is served. All those registering will be assigned to work, with a fine up to $500 or six months in jail for failure to obey the assignment. There are a few exceptions which will permit a few to be exempt from this law, but none of the exceptions apply to the habitual loafer or idler.

The results of this law will be watched with interest. It is a move in the right direction, and other states might well follow the lead of Maryland. We can imagine that neighbors will not be slow in obliging with information concerning those who do not register. We have seen times when we would have welcomed such a civic duty. Some jealous people have referred to Maryland as "easy going". They will need to revise their estimate after Aug. 20.

* * *

KEEP A GOOD FARM SYSTEM

Ever since the present hysteria about food production began, we have been advising farmers to stick to their regular lines and schedules. The sub-normal production of last year because of seasonal conditions, added to the distractions caused by the demands of war, tended to befuddle the minds of some farmers and induced them to drop some of their regular productions and greatly increase those which were temporarily high in price. The result, as always, is that those things are now plentiful and cheap altho the cost of production was much above that in normal years. There are always some farmers who drop a line in a period of low prices and take it up in times of high prices. Such a practice always leads to failure. The successful farmer is he who, after he has adopted a rotation and system of crops which proves satisfactory, sticks to it thru lean as well as fat years.

There are no conditions now which call for a revision of a well-established system of farming. There is no product which will be proportionately in greater demand in the future than it has been in the past. We may be called upon occasionally, as now, to increase all along the line in order to meet increased demands, but the wise general farmer will not upset his standard in order to become a temporary specialist. Of course, whether the production be much or little, or the demand be great or small, the good farmer will continually study how he may apply better and more economical methods and hence increase his profits.

* * *

STATE BUREAU OF MARKETS

Governor Brumbaugh has signed the bill creating a Bureau of Markets in the Pennsylvania Department of Agriculture and E. B. Dorsett, of Tioga County, widely known in grange and farmers' institute work, has been appointed state Director of Markets. We criticised the market bill when first introduced as being too general and indefinite in its provisions. We believe that the criticism applies with equal weight to the enacted law.

According to the terms of the law, the Bureau is created "for the purpose of promoting proper, efficient and economical handling, packing, transporting, storage, distribution, inspection and sale of agricultural products" and to assist "producers and consumers in selling and purchasing the same under fair conditions and at fair and reasonable prices." The Director is appointed for a period of four years at a salary of $4,000 per year, and shall have such assistants as may be necessary to "carry out the intent" of the act. There was appropriated the sum of $25,000 for the use of the Bureau for the next two years.

The **primary duties of the Director** include organization of the Bureau and planning the work to be done; investigation of methods and practices in production, handling, standardizing, weighing, packing, etc., of farm products and all matters related thereto. To gather, formulate and disseminate information relating to above matters and by correspondence, publication, advice or other means keep producers, purchasers and consumers informed of supply and demand. To publish bulletins setting forth current prices and furnish data regarding available supplies. To publish names and addresses of producers and consignors of farm products. Secure co-operation of the U. S. Department of Agriculture, market organizations of other states, College of Agriculture of this state and any other organizations that may be of assistance. To assist and advise in the organization and conduct of public markets and associations for improving relations between producers, distributors and consumers. To investigate delays, embargoes, conditions, practices, charges and rates in transportation and when warranted to bring proceedings against offenders to improve and adjust same; and when advisable, to institute proceedings to prevent unlawful combination or agreements in restraint of trade or for fixing prices. When it shall appear that any farm products are liable to spoil, waste or depreciate in value for lack of a market, to take steps to benefit producers, distributors and consumers and prevent waste. To formulate standards, grades or classes and recommend their adoption. To inspect and determine standard grades of farm products and mark all products so inspected. To prescribe and publish a schedule of fees to be charged for such inspection. To punish misuse of Bureau labels or violation of the Bureau law.

A careful analysis of this law will reveal very little that is new. All of the investigation, recommendation and promotion outlined in detail in this law was within the province of the Department of Agriculture and was supposed to be performed by the state farm advisors in the Department. The Department also had full authority to publish all information here called for, secure co-operation of the same bodies here enumerated, render assistance to the same trade and commercial bodies and make same investigations of delays and embargoes. Prosecution of cases of restraint of trade and price fixing is a duty of the legal department of the state, and requires no new or special Bureau. Everything covered in the generalities referring to these matters was possible before the new law was passed. The only new feature is the provision for state inspection, but even in this activity the new Bureau is without authority.

The Director shall formulate a fair schedule of grades. The agents of the Bureau may inspect goods according to this schedule, and charge a fee to be established for such service. Goods so inspected may be marked to indicate that they conform to such a state standard. But the state can not compel anyone to grade to the standard set. It cannot compel inspection or labeling. It merely volunteers a service, charges for it, and can offer no reasonable guarantee that the service will be of any value to producer, dealer or consumer. There is little danger that the Bureau inspectors will be overworked or that the Bureau will wax fat on fees collected for such innocuous inspection.

We believe there is need of an active market bureau or a state department devoted to supervision of marketing. But such a department should have power to enforce certain reforms. Standardized packing and grading will never be developed by advice and recommendation alone. The evils existing in the commission business will never be eliminated by recommendation. Co-operative bodies with sufficient initiative to organize for buying or selling will find little use for a state Bureau that can do nothing but advise or recommend.

Mr. Dorsett has shown himself to be a good organizer. He has had rare success in grange and farm organization, but he has a man's sized job in developing an effective Bureau from the new market bureau law. The farmers of the state are pretty well surfeited with advice and recommendation. It will be difficult to convince them that they needed an additional $25,000 worth for the next two years. Director Dorsett is charged with the organization of the Bureau. He can fulfill every requirement of the law and not disturb a single feature of the present marketing conditions. Or, he can build the foundation for a real Market Bureau, and trust to a latter session of the legislature to give him a law with real teeth in it.

HARRISBURG NOTES

Save the Hens.—Reports of such reductions in flocks of poultry thruout the state because of high price of feed and prices to be obtained for fowls have reached the Department of Agriculture that the state officials are preparing a warning to the farmers and poultry raisers to conserve their stocks and even to keep hens more than two years old if they are in healthy condition and fit to be good layers. It is estimated that there will be 2,000,000 less chickens this fall than last year and a consequent shortage of the supply of eggs is expected.

Wheat Crop. — Comparatively little Hessian fly is reported in the wheat of the state. The threshing season is now on and growers are urged to see that grain is clean and storage places free from pest infection. The field bin idea before threshing is being extended in this state, altho wet weather has caused some loss. Many instances of wheat sprouting have been reported and the granery moth is on hand as usual. It is believed that with care in threshing and thoro cleaning of the storage places that eggs of the moth can be exterminated and thousands of dollars saved to the farmers.

Ask Grange Help.—The new Bureau of Markets, which is slowly getting its organization perfected, is about to issue a letter to each of the granges suggesting the appointment of a market master to assist in the organization of marketing, grading and the like. The idea is to get things for shipment in car load lots so that better distribution can be effected. The first work of the bureau will be to get the peach and grape crops to market. The peach crop will afford a fair test and the apple crop will afford another.

Down to Brass Tacks.—Rumors of "housecleanings" in state departments are rife, but it is believed that the state officials will await the primaries and possibly the November elections to see how the voters take the work of the governor in reviewing the achievements of the legislature. In a number of instances the administration is getting ready to "point with pride" and legislators propose to get a share of whatever glory may be lying around loose. The chief matters in which pride is to be taken are the codes and the large educational and highway appropriations, in which the legislators will claim as much share as the governor. The State Board of Education estimates that the amount appropriated this year is the greatest ever given to the schools.

The Minimum Salary.—The approval of the minimum salary act has caused official notice to be sent to the school districts that they must advance the salaries officially and that the state will ultimately pay the bill. Under the system of payment of districts the money which will be distributed this fall will go to the districts as part reimbursement for what they paid out the last school year, but they will not get paid for what they will pay for 1917-1918 school year until next fall. However, the increased pay must be given to the teachers for this coming winter's work. It means that some districts will have to borrow money as the taxes have been levied and that poor districts will be forced to ask for some assistance. There have been no objections, it may be said, to the enactment of the law to increase the salaries of hard working, underpaid teachers except in rare instances.

The Potato Crop.—The bulletin of the Department of Agriculture is again optimistic about the potato crop. The acreage on the farms is given as 309,331 with no figures available for the war gardens. The increase in potatoes on the farms is over 44,000 acres and the farm yield is estimated at over 25,000,000 bushels. Every county reported an increase in farm acreages given to potatoes, some as high as 50 percent. The bureau has also issued an estimate showing a wheat crop of 22,000,000 bushels in sight. Last year the crop was given as 25,719,000. Rye is put down at 4,315,000, which is a drop of 175,000 bushels and oats at 33,775,000, an increase of 1,250,000 bushels. Corn acreage is estimated at 1,554,434.

Scramble for Labor.—Men who have made efforts to get people to go to farms to help on the food crops have been somewhat nonplussed by the scramble for hands. Between the mills, the army and navy, the railroads, the construction work and the other lines the man who has not a job has to almost hide. The result has been that the number volunteering to go to the country for work on farms has not been large in spite of the healthful nature of a vacation spent in the fields.

Fish for "Planting".—Farmers can obtain trout during August and other fish including bull frogs during September for "planting" in streams from the State Department of Fisheries by applications and agreement to look after the placing the fish in the water and to make reports on conditions. The commissioner of fisheries says that the indications are that there will be more fish to distribute than ever before and that yearling trout will be furnished for stocking purposes if proper assurances are given.

State Millions.—People are so accustomed to speaking of millions of dollars when Pennsylvania's revenues and disbursements are concerned that it is not realized just what a million means. The revenue of the state for the next two years, including the income from the much criticised direct inheritance tax law, will be over $84,000,000 according to men who follow such things. The governor to be safe estimated $82,000,000, but the corporation taxes this year will run very high. The allottment of the $18,000,000 school appropriation includes $300,000 for vocational schools and $200,000 for agricultural schools. Normal school tuition, which includes some instruction in agriculture, is $600,000. The whole normal school appropriation is close to $1,000,000. Eventually the state will obtain considerable government aid thru the Smith-Lever and Smith-Hughes laws. The state revenue this year from automobile licenses has passed the $3,000,000 mark already, all going to maintenance and the hunters' license system is yielding over $300,000 for game work.

Paying the Townships. — The state has started to pay townships their shares of the 50 percent allowance on expenditures under the Jones "dirt road" law and the first checks for the $929,335.20 to be paid under the 1910 and 1912 allottments will be welcomed in many townships. Only townships filing reports are to get this money.

Tree Doctors Again.—A warning has been sent out by the State Zoologist against fake tree doctors, who seem to have been selling some remarkable preparations for the ailments of all kinds of trees from thorny locust to Northern spy. One preparation is "state oil", another "borer extractor" and all seem to be more or less suspicious. The zoologist has asked that information be sent to him immediately of any frauds attempted. The new tree license blanks have been received and in a few months all nursery salesmen will be required to show licenses. The inspection of nurseries is under way. The first arrests of fake tree doctors have been reported. Arrests have also been made for the adulteration of herbs.

Figures on Lime.—According to figures compiled at the Capitol 312,948 tons of lime were sold under the pure lime law last year, but this does not near represent the lime used on the farms of the state. There were thousands of tons bought from small producers; many more sold in bulk and a considerable quantity burned by men on a co-operative plan. The use of lime in farming is rapidly increasing as the amount of fertilizer used seems to have declined in spite of the activity in agricultural production.—Hamilton, Harrisburg, Aug. 6.

NEW JERSEY NOTES

Co-operative Buying.—The state Commissioner of Labor has just issued a letter to the manufacturers of the state calling attention to the co-operative buying undertaken by several manufacturing concerns and pointing out that the State Department of Agriculture has suggested co-operative or bulk purchasing of potatoes and other staples. The commissioner states that co-operative buying by manufacturers was done for the purpose of assisting their employes during these times of high cost of living and gave excellent results in some cases.

Farmers on Exemption Boards. — Agriculture is well represented on the Federal District Exemption Boards named by President Wilson. The members were picked upon recommendation of the governor, who chose men from industry, labor, agriculture, medicine, law and several other callings. There are three of these district boards for this state, and barring the President, are the final courts of appeal for drafted men who desire to be exempted.

Retail Prices. — While some reductions are noted in the prices made public this week in the fifth report on wholesale and retail farm product figures, it is still evident that the retailer is reaping exorbitant profits. Retailers of cabbage in Philadelphia insisted on a net increase of 900 percent over the farm price on cabbage during the past week, just as they were reported as doing the previous week. Sweet corn cost 350 percent more a dozen than the farm price in Atlantic City. The wholesale city price was at the rate of 25 cents a dozen and the retail price was 45 cents. The Department of Agriculture states that recently six municipally-owned farmers' market places have been opened in cities heretofore without markets. This is expected to help reduce the cost of foods. A little more shopping and not so much dependence on the telephone is urged as another curative.

Automobile Fees.—It is anticipated by Motor Vehicle Commissioner Wm. L. Dill that his department will exceed $1,900,000 in revenue to the state this year. He expects that the number of examinations for drivers' licenses will exceed 70,000. These estimates are based on the results of the past seven months, which showed total receipts of $1,697,805.55, as against $1,402,066.80 for all of 1916. The sum of $29,146.50 has been realized from the new law providing that each applicant for a learner's permit must pay a fee of 50 cents. This is entirely new revenue for the state.

Bridge Commission.—Governor Edge having been advised by Governor Brumbaugh, of Pennsylvania, that the latter has approved the bill providing for a Commission to co-operate with the New Jersey Commission to study the Camden-Philadelphia bridge or tunnel proposition, and the Pennsylvania Commission having been appointed, it is expected that the joint work of the two bodies will shortly begin. The Pennsylvania law carries an appropriation of $15,000 for the expenses of the Commission.—L.

NEW YORK NOTES

Court Plaster Infected.—Government agents in Binghamton announce that they find anthrax germs on court plaster sold in the city by an itinerant vender.

Employment Records Broken. — Auburn Employment Bureau referred 131 men to positions in July, their highest month's work. The call for farm hands is very active, with two employers for every man. The farm situation is so acute in Onondaga county that an appeal has been made to the Merchants' Association to grant vacations with the understanding that they shall be spent on the farms.

To Improve Potatoes.—In Cayuga County an organization known as the Northern Potato Growers' Association has been formed. Each member pledges himself to grow potatoes from certified seed, and to submit them to inspection three times each season. Spraying materials have been bought wholesale, at a saving of 50 percent in costs.

Food Control Board Sought.—At the special session of legislature convening July 31, Governor Whitman urges the creation of a food control board for the state. Such a board would have power to obtain information on all food production and consumption, reporting the same to a federal food administrator, including the amount of food in storage, the state's own requirements, and its food exports and imports, etc. It is thought that no interests will attempt to block such legislation.

Hot Weather Wave. — The hottest weather for several seasons is upon us. New York City's temperature is 98 to 100 with many heat prostrations, the suffering being the greatest in sixteen years. Many other places report fully as high temperatures.

Consumers Blamed.—At the public hearing in Albany, of the legislative committee the Wholesale Grocers' Association blamed consumers for much of the present food stringency, charging wholesale buying of non-perishable foods for storage, saying no shortage has existed. They predict lower prices by fall.

Crop Conditions.—The federal crop report for the state for the week ending July 24 is favorable to most crops. Beans are progressing but are backward for the season. Oats and barley are good and wheat is ripening rapidly. Rye is heavy and is being harvested in some counties. Potatoes are doing well. Bugs are showing but not seriously. Early varieties are now being marketed on Long Island. Many farmers are filling silos with clover.

To Save Sailors.—Thomas Mott Osborne, late of Auburn prison, is newly appointed lieutenant commander of the United States Naval penitentiary at Portsmouth, N. H. As the result of his prison experience he hopes to be able to save many fine young sailors for the navy from the many sent there for reform.

Canada Wants Loan.—Canada is to borrow a hundred million dollars of New York bankers, to offset in part the heavy trade balance against her in this country. The loan will bear 6 percent interest and has been approved by Secretary McAdoo.

Syracuse May Receive Action. — So much trouble has been found in and near Syracuse in enforcing the war camp prohibitory measure that it is expected that Secretary Baker may take a hand and declare the territory "bone dry" while the training camp remains.

Onion Crop 50 Percent Yield.—Based on present conditions state onion growers look for a 50 percent crop. Insufficient drainage of muck lands are to blame for the loss. Over 60 acres was wiped out in this way near Clyde and Perkinsville. The grape crop in these regions also suffered badly from mildew and black rot.—F.

FARM MEETING CALENDAR

New York Fruit Growers' Association, Oswego, N. Y., August 7-11.
Cecil County Farmers' Day, Port Deposit, Md., August 18.
Society of American Florists, New York City, August 21-23.
Farmers' Field Day, N. J. Experiment Station, New Brunswick, N. J., September 6.
Solebury Farmers' Exhibit, Solebury, Pa., September 7-8.
New York State Fair, Syracuse, N. Y., September 10-15.
Inter-State Fair, Trenton, N. J., September 24-28.
Dairy Cattle Congress, Waterloo, Ia., October 1-7.
Eastern States Exposition, Springfield, Mass., October 12-20.
National Dairy Show, Columbus, O., October 18-27.
American Pomological Society, Boston, Mass., October 31-November 4.
Pacific National Dairy Show, Portland, Ore., Nov. 16-23.

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Building a Dairy Community

Intelligent Co-operation makes Monroe County a Dairy Center

A splendid example of what community interest, led by a few public spirited individuals, can do is found in the case of the dairy industry in Monroe County, Pa. A number of enterprising and far-seeing business men, among them Mr. Charles F. Jenkins, publisher of Farm Journal, was interested in a popular summer resort Inn located in the Poconos, in Monroe County. During the summer of 1914, this Inn purchased milk, cream and butter from considerable distances. Records for the season showed that only 19 percent of these products came from the near-by farms. The 81 percent was purchased at a distance, a considerable portion of it coming from New York state. There were hundreds of acres of good grazing land within ten miles of the Inn, and many herds of cows, altho the latter were mostly of poor quality.

The management of the Inn saw the opportunity to be of service to the farmers of the community and at the same time develop a near-by source of milk, cream and butter that would insure a ready supply of good quality. A systematic effort was made to introduce purebred and grade Ayrshire cows as the surrounding farming conditions seemed best suited to this hardy and profitable breed. During the winter a dozen young purebred bulls were bought from one of the best known Ayrshire farms of the state. These were put out among the farmers at cost. At the same time the Inn management assured the farmers of a good outlet for their products.

The summer of 1915 showed gratifying results. The Inn spent $9,044.80 for milk, cream and butter during that season. Of this total, $2,985.07, or 33 percent, was purchased in Monroe County, and the balance, $6,059.73, was spent outside, but practically all of it with Pennsylvania dairymen and creameries in nearby counties. One enterprising farmer who had supplied no milk in 1914, received $1,164.20 for his milk sold in 1915. He had made a good start with his Ayrshires, and has improved his herd since until he has as good a herd as one would want to see.

This start by a few farmers turned the attention of more farmers to the possibilities of dairying. The Inn management further encouraged the use of milk by listing on its bill of fare and as a specialty "Ayrshire milk". With this encouragement the season of 1916 showed a further increase in the local supply. The Inn spent $13,364.67 for milk, cream and butter that year. Of this, $7,665.62, or 57 percent was purchased within a radius of 15 miles of the Inn, and $4,287.85 more was spent outside of that radius, but inside of the county. Only $501.56 was spent for these products outside of the county and $650.97 outside of the state. The latter amount went for certified milk which is not produced in Monroe County.

Thus it will be seen that a little systematic effort has increased the home supply from 19 percent of the total local consumption in 1914, to 33 percent in 1915 and 57 percent in 1916. The whole county has wakened up to the possibilities of the local demand. Last fall there were 66 purebred bulls of all the dairy breeds in the county, and only 132 scrub bulls. The latter are gradually being weeded out. Of the 66 purebred bulls, 33 were Ayrshires, and the other 33 were divided among the other dairy breeds.

Another step taken by the Inn management to stimulate interest in dairying was the inauguration of a local township fair, held on the Inn grounds. Last fall there were 57 head of purebred Ayrshire cattle shown at this fair, and a tremendous amount of interest aroused in better dairying methods. And these Ayrshire breeders are real enthusiasts. A group of the Monroe County breeders travelled to the National Dairy Show last fall in a special car and formed one of the most enthusiastic bodies in the Ayrshire contingent at that great show.

As a study in the advantages of a community specializing in a single breed of live stock a Monroe County Prize Essay contest was held in the public schools of the county in 1916. The subject was "Why Monroe County Farmers Will Profit by Keeping One Breed of Cattle," and the contest was open to all public school pupils. Twenty prizes were offered. First prize offered was a purebred registered Ayrshire heifer calf; second prize, a purebred registered Ayrshire bull calf; third prize, a Babcock milk tester; fourth prize, a milk scale; fifth prize, a patent sanitary milk pail; sixth to tenth prizes, honorable mention and a Swiss cow bell to each. The school producing the first prize essayist was further rewarded with a framed picture of a dairy cow.

NONE HANDSOMER AND FEW AS GOOD AS THE BONNY AYRSHIRES.

This contest was so successful that a second contest was conducted in a similar manner and for a duplicate set of prizes last year. The subject for the second contest was "How Can Boys and Girls Help Make Monroe County Famous for Dairy Stock Conditions?" Local banks have also taken up the promotion work and during the past winter a local bank advanced money for purchase of purebred Ayrshire, Holstein and Guernsey calves to be fed and cared for by the farm boys and girls of the county. Other banks followed with similar offers in the development of pig and poultry clubs.

The promotion work of these Inn managers demonstrates what can be done with systematic and sympathetic effort. It demonstrates how the trend of farming in a community can be changed and improved. It demonstrates the value of a live community interest in community problems and what a little intelligent co-operation will do. The Inn developed a near-by source of clean, wholesome milk, cream and butter which is delivered daily in the best possible condition. But in doing so it has added profit to the farmers of its county and put farming on a new basis.

SAVING CALVES

A great deal has been written lately about the necessity of stopping the sale of veal calves in order to increase the supply of beef. No amount of feed or care can make a Hereford steer out of a Jersey calf. If the calf is worth raising to make a milk cow it should be raised for such, or if it is of a beef type raise it for beef; but otherwise, in this day of high prices of food stuffs let us not waste it. The large percentage of calves that are getting on the market today as veal come from milk cows and are more or less of the dairy type.

For some years our cow testing associations have been trying to emphasize the fact that many of these calves are not worth raising because their pedigree is such that the chances of their making profitable milk cows is exceedingly small. The increased prices of food stuffs very materially raises the number that ought to be slaughtered for veal. There is a time when every farmer must think seriously before allowing a calf to pass the age when it is valuable veal. A calf that is not raised right will never become a valuable animal and if a calf is to be kept it must be fed and developed. It is easy to starve out even the good qualities of a growing calf. On the other hand, we must look forward to the fact that the prices of dairy products are bound to increase and that those who are today building up a herd to produce these products economically are bound to be winners. This undoubtedly calls for improving the type of the sire of the herd so that we may get a line of calves that are worth raising.—F. R. Stevens, in L. V. R. Circular.

METHODS OF CHILLING MILK

Never put ice directly into milk. The ice may contaminate the milk and add water as it melts. It is not economical to place warm milk directly in a tank of ice water. The milk should first be cooled over a cooler thru which passes cold running water from the well or spring. After some of the heat is removed the milk cans should be placed in a tank containing ice and water, which should come well up to the neck of the cans. Frequent stirring of the milk with a clean stirrer hastens the cooling process.

Many tanks waste ice because they are too large for the number of cans chilled. A small tank for cooling one can at a time may be made from a barrel sawed to the proper height. Insulating jackets should be placed around the cans of chilled milk whenever milk is to undergo a long haul to the station or be a long time in transit. These jackets will help materially in keeping it cold until it reaches its destination.

Only thru the use of ice can dairymen hope in warm weather to get their milk to market with a satisfactorily low bacterial count. Cooling with spring or well water is better than no cooling, but such water is not cold enough to chill the milk to the point where bacteria cease to multiply rapidly. These bacteria, which gain access to the milk during its production and handling multiply surprisingly as long as the milk is warm. This causes the milk to sour or to take on undesirable flavors and some of them may spread disease. Icing milk on the farm, therefore, is highly important even in moderately cool weather. Inasmuch as much market milk is many hours old before it is consumed, it also is important to keep it as cool as possible thruout its journey from the farm to the distributing point, and the distributor must see that it is kept chilled until it is delivered to the housewife.

DIRTY CALF PAILS CAUSE SCOURS

The farmer who uses the swill pail for feeding calves or who hangs the pail on a post between feedings without washing it will soon be looking for a cure for calf scours. The dirty calf pail is one of the chief causes of scours. With the fly season and warm weather at hand, extra precautions must be taken in caring for the calf pails. They should be washed thoroly after each feed and sterilized either with steam or hot water. After the pails have been sterilized they should be inverted in a clean protected place until time to use them again.—L. W. Wing, Mo. College of Agriculture.

New Milk Freight Schedule

Interstate Commerce Commission Orders a Readjustment

The decision of the Interstate Commerce Commission, ordering a readjustment of freight rates on milk and cream, is of general interest to the dairymen supplying these products to the Philadelphia market. The decision was made June 21, and announced last week. The order covers transportation of milk, cream, condensed milk, skimmed milk, butter milk and pot cheese in carloads and less to Philadelphia, Atlantic City, Cape May and intermediate points on the lines of the Pennsylvania R. R., the Philadelphia, Baltimore and Washington R. R., the West Jersey and Seashore R. R., and from points on the Philadelphia and Reading and the Baltimore and Ohio R. R.

The report of the Commission reviews all of the evidence submitted by the railroads and the complaining dealers and makes two general conclusions: 1. The rates received on shipments of milk and cream to Philadelphia and other points involved are not unreasonably high; but while rates as a whole are not unreasonable, the adjustment of rates is upon an unreasonable basis. 2. The present zone adjustment and charges are unreasonable and unduly prejudicial to producers and shippers from nearby points, and unduly prefer producers and shippers from distant points.

Upon these conclusions new rates were ordered for interstate shipment of the commodities above named in baggage, milk or refrigerator cars in milk or passenger trains, iced when necessary, such rates to include return of the empty containers. Rates are made per 40-quart cans in ten mile zones up to 630 miles. The new rates with comparison with old Pennsylvania rates and rates suggested by the Philadelphia dealers are shown in the following tables. New rates are given here complete only up to the 100 mile limit.

Miles	New Rate	Old Rate	Dealers' Suggested Rate
0-10	15.5	20.	11.4
10-20	16.5		
20-30	17.5	23.	13.9
30-40	18.5		
40-50	19.4		16.1
50-60	20.3	27.3	
60-70	21.1		18.
70-80	21.9		
80-90	22.7		19.7
90-100	23.4	30.5	
100-110	24.1		21.3
120-130	25.5		22.8
140-150	26.8		24.
180-190	29.2	33.6	25.
200-210	30.4		
220-230	31.5		26.
260-270	33.5		27.
340-350	37.5		28.
420-430	40.9		29.
500-510	44.1	36.8	
540-550	45.7		
590-600	47.5		

Rates on larger or smaller cans are established on the basis of the rates for 40-quart cans, but not with reference to capacity only. On less than carload lots, the rate on 20-quart cans shall be 56 percent of the quoted rate on 40-quart cans; on 23-quart cans, 63 percent; on 24-quart cans, 65 percent; on 30-quart cans, 79 percent and on 46-quart cans, 113 percent.

Rates on cream and condensed milk in less than carloads shall not exceed those on milk by more than 25 percent.

Rates on milk in carload shipments shall not exceed 87½ percent of the rate established for less than carload lots, and rates on cream in carload lots shall not exceed 87½ percent of the rate established on cream in less than car lots.

The rate on 40-quarts of milk when shipped in quart bottles shall not exceed 140 percent of the rate on a 40-quart can of milk; when shipped in pint bottles, 160 percent, and when shipped in half-pint bottles, 180 percent.

The new rates are ordered to go into effect on or before October 1, 1917.

Rates to New York City

A decision on rates on the same products shipped to Wehawken, Hoboken, Jersey City and New York City was announced on the same date as the one affecting Philadelphia. The same schedule of rates was ordered as in the Philadelphia case.

Results of Decision

These decisions are of particular interest to milk producers who pay the freight on their milk shipments. The reductions are in the nearby zones. It will be noted from the table that the new rate for 260 miles is practically the same as the old rate, and beyond 270 miles the new rates are higher. The new schedule corrects the Commission's finding that the old zone adjustment was unreasonable and unduly prejudicial to near-by shippers. The effect of the change will be to give preference to near-by producers, and so far as cost of freight alone is concerned, will check long shipments of milk.

It will be interesting to producers to compare the new rates with those suggested by the dealers entering complaint particularly with reference to distant shipments. It will be noted that the dealers asked for a general reduction but their reductions on long hauls were much greater than on short hauls. In other words, they sought to make freight conditions favorable to wide extension of the producing field. The new rates, on the contrary, will tend to limit the producing area, because of lower near-by rates.

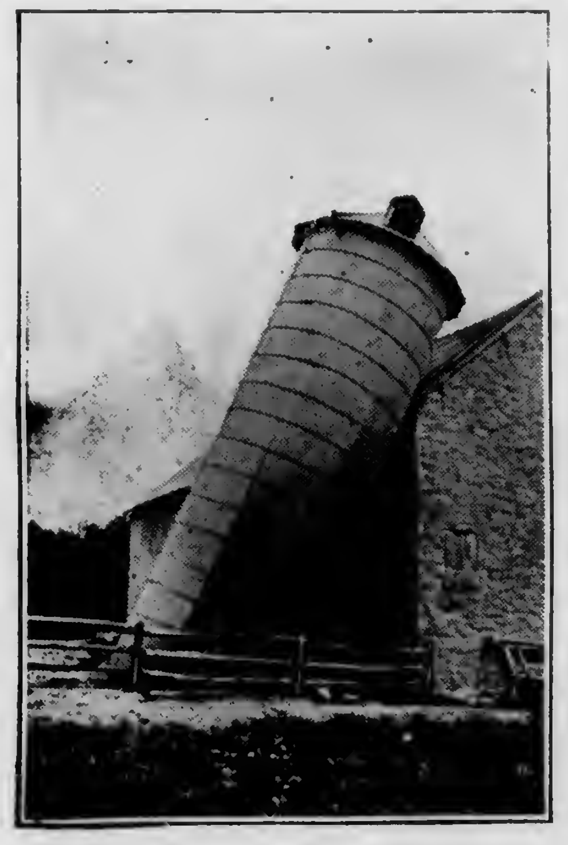
The lower rates on cream may have the effect of inviting the creameries and condensaries to more outlying sections and leaving near-by sections to the milk business. One of the most important results of the decision will be to make rates uniform on all roads and thus stabalize this important factor in milk shipping.

SILAGE A CHEAP FEED

Because of the economy and convenience in feeding silage, more silos are being built every season. This year will likely see a larger number erected to "can" the corn crop. Seventeen percent more milk and 28 percent more butterfat was produced by dairy cows fed largely silage than by others fed mainly a grain ration in a feeding test conducted at the Ohio Experiment Station. The silage ration produced butterfat at 13 cents a pound, and the grain ration at 22 cents. Two pounds of dry matter can be produced in the form of silage at less cost than one pound in sugarbeets, other tests have shown.

A SILO TRAGEDY

The accompanying picture shows a newly erected silo which thru the lack of sufficient guy wires was blown over against the barn and partly wrecked. This silo had only been erected two weeks when a heavy storm blew it over. The owner was fortunate to have it fall against the barn, for had it fallen to the ground it would have been a complete wreck. As it was, the silo had to be completely taken down and about 25 percent of the staves replaced, not to mention the labor cost of erecting it twice and taking it down once—equal to erecting three times.


A SILO TRAGEDY.

The lesson to be taken from this is that it is better to have the silo built on a solid base and then don't be afraid to buy a few extra feet of cable to anchor it properly.—J. Raymond Kessler, Chester County, Pa.

LATE BULLETINS

Sheep Raising For Beginners.—Farmers' Bulletin 840 discusses Farm Sheep Raising for Beginners. The discussion covers the outlook for sheep raising, requirements for sheep raising, starting a flock, size of flock, management at breeding time, the lambing season, preparing lambs for market. The bulletin is free upon request addressed to U. S. Department of Agriculture, Washington, D. C.

Harvesting Sweet Clover.—Farmers' Bulletin 836 discusses Sweet Clover—Harvesting and Threshing the Seed Crop. Subjects covered include time to cut for seed, loss from shattering, machinery for harvesting, stacking the seed crop, threshing, yields of seed, sweet clover straw. Bulletin is mailed free upon request to U. S. Department of Agriculture, Washington, D. C.

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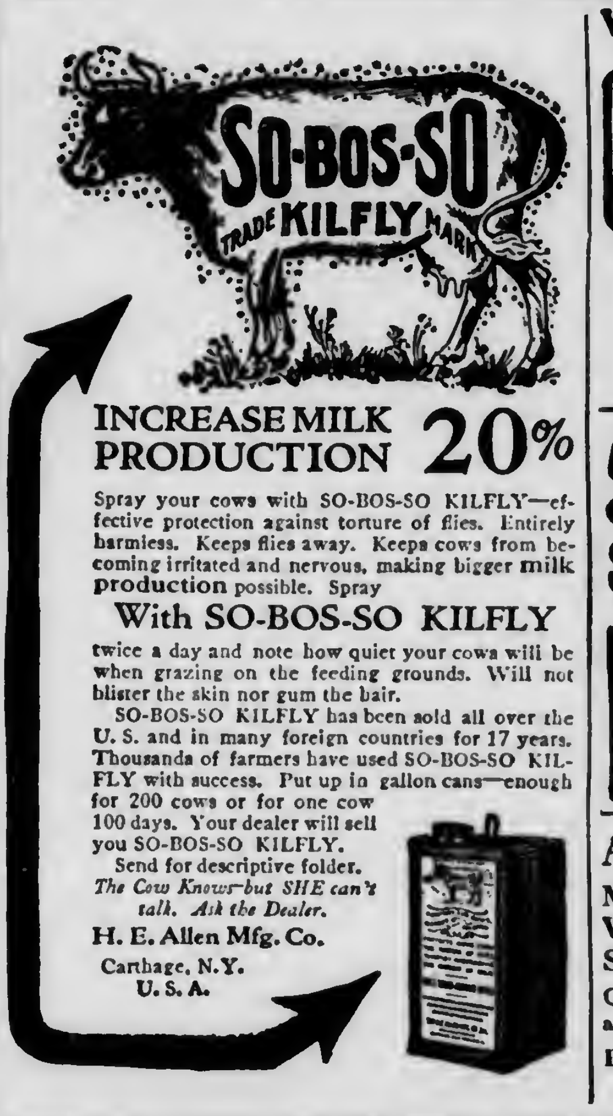
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Farm Products Prices and Prospects

THE FEEDER CATTLE SITUATION

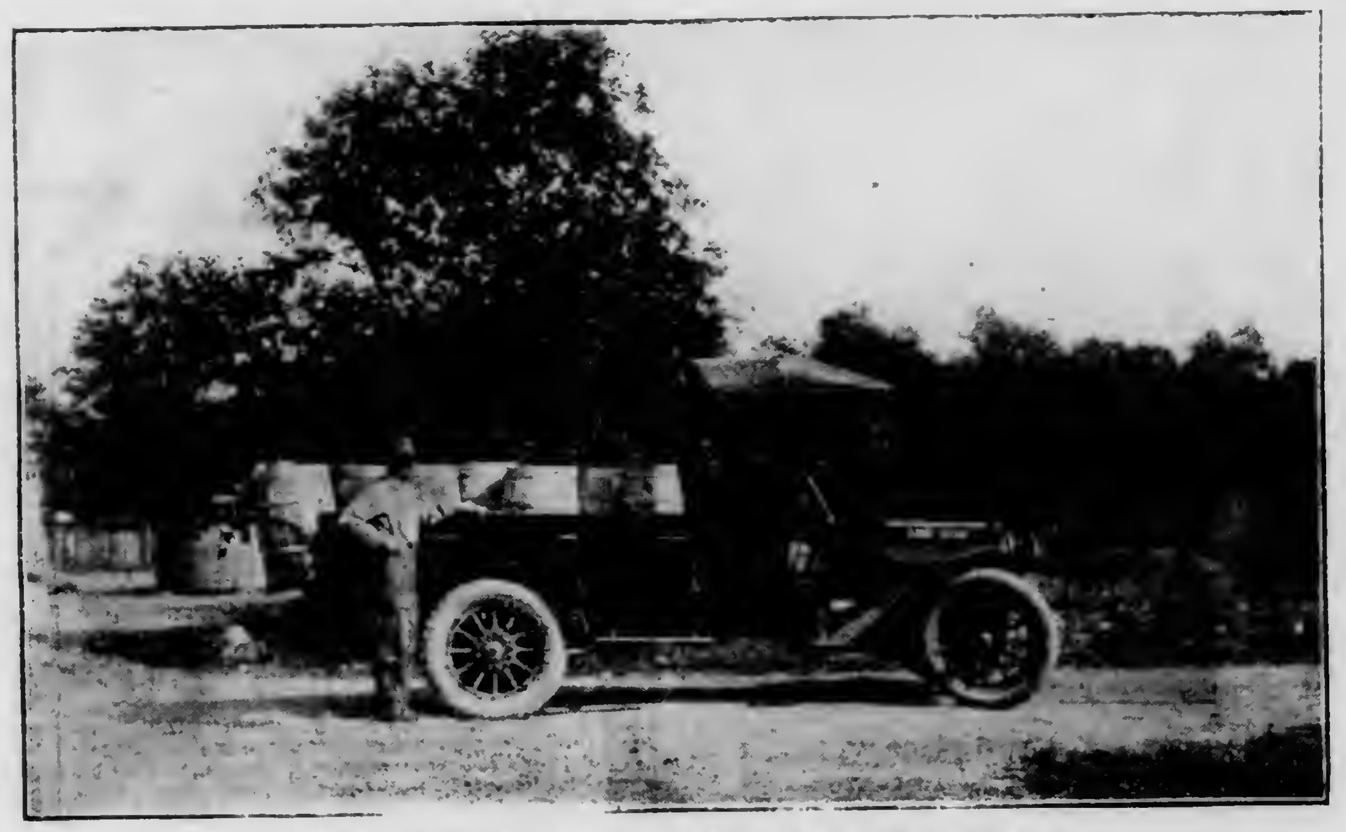
Maximum and Minimum Prices on Corn

The writer has just returned from an extended trip to the Middlewest and Northwest, and during his visit naturally made inquiry as to the cattle situation. He consulted the heads of the great Chicago packing interests: the big live stock commission salesmen in both Chicago and St. Paul, and farmers and shippers of live stock in the states of Illinois, Wisconsin, Minnesota, North Dakota, South Dakota, Kansas, Nebraska, Iowa, and Oklahoma. The concensus of opinion among all of these was that a large supply of cattle suitable for feeding purposes existed in "The Cattle Belt" this year, and whether or not this crop of thin cattle would be converted into beef, depended entirely upon the yield of corn and the price of corn. And therefore the price at which cattle for feeding purposes would sell during the fall months of September, October and November, depended upon whether the prospect was for $1 corn or $1.50 corn. If the latter price, stockers would be cheaper because farmers would sell their corn rather than take the chance of converting it into beef. If, on the other hand, the prospect for corn was a moderate price, say $1 per bushel, a large crop of thin cattle would be put on feed, and a big supply of beef ensue during the spring and early summer months next year.

Strange, but true, the great majority of Western farmers seem to think that it would be well for Congress or those entrusted at Washington with fixing food price to make the maximum price for corn, after November first, $1 per bushel, and the minimum price, 75 cents per bushel. They say, and so do the large operators in cattle, that if some such arrangement is not made, a beef shortage of a serious character will follow after January, 1918. They seem to think that fixing a maximum price for corn should be done soon, in order that all interested might have proper notice. It was pointed out that corn is practically the only cereal food that is used both as a human food and as animal food. Also that six-sevenths of the entire corn crop is used for animal food, and one-seventh for human food, plus distillation for alcoholic ilquors. It was further contended that, should corn continue at a high price, being held by producers until after January first, it would then be too late to make purchases of cattle to feed it to, and the enormous yield now in prospect, if thus held, could not find a market for purposes of human food. Therefore the price would necessarily drop lower than if a price were fixed in advance by the government authorities, and a serious beef shortage would result. Under such conditions the general public would suffer because of insufficient supply of meat food and the farmer in the long run would be worse off than if the procedure herein recited had been resorted to.

It may be interesting to cattle feeders and the public in general in Eastern Pennsylvania to know that at the seven great cattle markets of the country, Chicago, Kansas City, Omaha, St. Louis, St. Joseph, Sioux City and St. Paul, the receipts for the year 1917 up to July 26 totaled 6,044,000, as compared with 4,140,000 cattle received during the corresponding period of 1916, thus indicating an increase in receipts at those markets up to date, of 904,000 over the receipts of the same period last year. The total receipts of hogs at the same seven markets this year, up to date, were 13,610,000 head, as compared with 14,743,000 head last year, indicating a shortage up to date of 133,000 head of hogs. The sheep crop at these seven markets, this year to date numbers 4,770,000 head, as compared with 5,122,000 head, a year ago, indicating a shortage of 352,000 sheep.

Thus it will be seen that the hog and sheep crops of 1917 up to July 26, shows a shortage as compared with the corresponding period in 1916 and the cattle crop for the same period shows a big surplus. But in considering the cattle crop the fact must not be overlooked that the beef cattle, cows, heifers, steers and bulls, of 1916 on the average showed a decrease in average weight per animal of 10 percent as compared with the average weight of the same animal, in 1915 and the 1915 crop showed the same decrease in average as compared with the 1914 crop. Therefore, the beef cattle being marketed today are, on the average, only four-fifths as heavy as were the average of beef animals a few years ago, and altho the number of head for slaughtering purposes has increased, the number of pounds of beef actually are not greater.—Frank R. McClain, in Market Letter.



GOING TO MARKET IS NOT THE TASK IT ONCE WAS.

PROSPECTIVE PRICES OF BUTTER AND CHEESE

What will be the price of butter this coming winter is one of the questions which every creameryman and every farmer in the United States may well consider, as it is a problem which only time will solve.

If we take the opinions of men who are engaged in the business, we could advise those who have butter in storage to keep it as some believe that butter will be worth a dollar a pound, while others aver that the price will be lower next winter than at the present time. So we have all sorts of opinions and those who have butter in storage or intend to have will have to depend upon their own observation and knowledge as any advice given may be wrong.

One thing we believe the majority will agree upon is that butter will not sell at $1 a pound next winter, and if the wholesale price will reach the 50-cent mark, there will be a fair margin of profit for those who have butter in storage.

The manufacturers of cheese have learned a lesson. They started the season's business with high prices. Product was selling at 28 cents or 28½ cents per pound until the British Government established a maximum price of 32 cents per pound for cheese, and as soon as this fact was made known, tho price of cheese immediately dropped below 25 cents per pound and from present indications there will be little export business of cheese from the United States, according to George A. Cochrane of Boston, Mass., who has his finger on the pulse of the export business at all times and who is an authority on cheese. It is his opinion that there will be no exportations of cheese from the United States until that manufactured in Canada and New Zealand has been purchased by the British Government.

Some creamerymen are of the opinion that similar regulations will be put into effect with regard to price of butter, and if this is true the maximum price of butter perhaps will not be much, if any, more than twice the price of cheese. However, the United States is not so much dependent upon the exportation of butter as the American consumers are great butter eaters, whilo they have only consumed cheese as a relish, while in Europe it is considered as a food. It may be possible to educate the average American consumers to make cheese a part of their daily ration; especially if the price of meats and eggs continue to be as high or higher than during the past year.—Butter, Cheese and Egg Journal.

ENCOURAGING CROP PROSPECTS

In its monthly circular the National City Bank of Chicago says in part: "The West has been greatly cheered by the encouraging reports from the crop area. These are bound to have a reassuring influence upon the whole country, since never has there been a time when huge food crops were more to be desired. Whatever food surplus we have will not only bring a fair price but will go far to satisfy the needs of our Allies abroad. The Government figures show that taking all the food crops together, the prospects favor a production of 1,000,000,000 more bushels than were harvested last year. This is about the best news that the American people could have at this time. Cash corn has sold at the highest price ever known at Chicago. Increased rainfall has helped conditions in a large portion of the corn belt, where good growth is shown.

Continued hot weather is needed to bring about the best results. The indications at the moment suggest a record or 'near record' corn crop. Winter wheat, altho late, is likely to show a much better yield in some sections than seemed probable a month ago. The outlook for spring wheat is excellent for a certain area in North Dakota. Oats will certainly be a large crop. So far as the production of all foodstuffs is concerned, the situation has been materially helped by the remarkable expansion of truck gardening in all sections of the country. This movement has been a direct influence in lowering the price of potatoes and adding to the efficiency of the 'household dollar.' There are indications that the efforts to secure national economy in the use of grain that is vitally needed in Europe will be attended with surprising results. Mr. Hoover estimates that from 80,000,000 to 100,000,000 bushels of wheat may be added to our export balance this year in consequence of the adoption of various conservation measures. Should this estimate be realized it may be possible to let Europe have 175,000,000 bushels of wheat, if not more. It is essential that this should be done, as it is distinctly a war measure and of the greatest importance in furtherance of the Allied campaign against a common enemy."

THE 1916 HAY CROP IN FOUR STATES AND THE UNITED STATES

	Acres	Tons per acre	Total Tons
New York ..	4,500,000	1.62	7,290,000
Penna.	3,255,000	1.60	5,208,000
N. Jersey ..	375,000	1.56	585,000
Maryland .	465,000	1.43	688,000
U. S.	54,965,000	1.64	89,991,000

RAILROAD EARNINGS SHOW INCREASE

It appears from returns to the Interstate Commerce Commission that the gross revenues of sixty-eight large railroads for June amounted to $142,173,503, compared with $122,695,746 last year; expenses to $95,682,996, against $80,217,558 last year, and net revenue to $46,490,507, compared with $42,378,188. Revenue per mile was $1,678 compared with $1,449, and expense per mile was $1,129, against $948. The net revenue per mile was $549, against $501 last June. For the six months ending with June the revenues were $759,470,450, against 681,181,086 for the same period last year; expenses $544,601,939, against $462,016,646 leaving net revenue $214,868,51 against $219,164,440.

Poultry

THE BREEDING TURKEYS

The grower of turkeys who has a large flock from which to select breeding birds this fall should select the very best to keep over. These selected specimens probably would bring a little more money, if fattened for market, than some of those that are marketed as table birds, but they are also worth more as breeders than the poor birds. Some growers of turkeys make the mistake of selling off their best birds every fall, especially when the turkey crop is short and prices are especially good, and reserving the poorest members of the flock to keep over. But the secret of improving any stock is to breed from the very best individuals. The real test of a good farmer is that his stock—horses, cattle, sheep, swine or poultry—are a little better each year than they were the year before. So get the very best breeding stock you can this fall, which is the best time of the year for both the old and the new breeder to obtain such stock. In the spring breeding birds of any kind are usually scarce. If the new breeder will secure his breeding stock this fall, then the birds will have ample time to become acquainted with their surroundings before the opening of the breeding season.

Strong, active, healthy birds, those that have never suffered from a serious disease, are wanted as breeders if the future turkey crops are to prove profitable. The toms and hens must be unrelated. The breeder who keeps hens from his own or from a neighbor's flock should send far enough away for toms so that there may be no relation. And if you buy a pair or trio of turkeys from a breeder be sure that the seller assures you that the birds are not akin. Those who make a specialty of growing breeders usually pay close attention to this matter. Some persons claim that relation makes no difference the first year or two, but it will and the little poults will be harder to raise than when they come from strong, unrelated stock. Inbreeding may be a success with chickens but it is fatal with turkeys. Up to their fifth year turkey hens are profitable as breeders, but if at any time young hens are retained from the flock the toms will have to be changed. Hens are not fully matured until two years old and they are at their best as breeders during the next two or three years. During the mating season the proper proportion to divide the sexes is from six to ten hens to each tom, altho successful hatches are often obtained when a larger number of females are allowed to each male.

Having made a choice of breeding birds from the flock, they should be separated from the turkeys that are to be marketed before fattening commences, as the former are easily injured by becoming overfat. If it is necessary to confine any of the birds during the fattening period, let it be the breeders; the market turkeys fatten more readily when they can enjoy their natural liberty right up to market day.

Arrangements should be made to take good care of the breeding stock during the winter. Turkeys suffer if unprotected during winter storms, but they do not want damp, stuffy quarters. A well lighted open shed that is fitted up so as to prevent direct drafts striking the birds, but which provides good ventilation at all times, makes good winter quarters. Fix up some broad perches a couple of feet from the floor in the shed, provide troughs for grit and water which are very essential for good health, and in severe weather put some straw or other litter on the floor. Feed corn and other grains regularly night and morning and during severe cold weather give an occasional feed of warm mash. A little green food should be given the turkeys ocasionally also.

Without proper care and attention, as well as suitable quarters, the turkeys will not go thru the winter in good health, and, consequently, they will not be in good condition for the breeding season, and that means poor success with the young. The young turkeys that are bred from healthy, vigorous stock are hard enough to raise to maturity without the grower being handicapped by none too healthy breeders.—Wm. F. Purdue.

SUCCESS WITH FARM POULTRY

The statement of a lawyer concerning the poultry business recently published in an editorial in the Pennsylvania Farmer should be of interest to farmers owning fine flocks of poultry which they wish to increase. He states that he believe very few men who have kept poultry over a number of years simply for the sale of meat and eggs, have made any net profit—except the farmer. Some of the reasons for the farmer's success and the commercial plant's failure should be worth considering. The farmer who desires to increase his poultry business should make every effort to follow out many of the plans which have been responsible for the success with a few birds.

Some commercial poultry farms have emphasized the fact that the hen is a machine and they have neglected to remember that she is also possessed with instincts or likes and dislikes which do not exist in a mere machine. The hen likes to range and select a portion of her own food by first gathering a bug or a worm, then a weed seed or a bit of clover. She scratches and wallows in clean earth and is rejuvenated by the exercise and the bath. She finds shade when she wishes shade or sunshine when she desires to bask in the sun. The hen that lives in the natural way for hens to live is usually healthy and vigorous. She is free from colds and roup. It is almost unnecessary to mention the fact that we do not see robins or meadow larks humped up in the corner with roup or bowel trouble.

When the poultry business is conducted on a large scale on a few acres of ground it means more or less crowding. The free range is reduced especially for the old stock and they are fed largely from hoppers. The dry mash containing beef scrap is too a large extent substituted for the materials that the hen would gather on the range. One poultryman recently said that beef scrap could not be a perfect substitute for worms and bugs because the beef scrap will decay when left in the sun while the dead worms and bugs dry up. He uses beef scrap but claims it cannot be as good as the insects a bird can gather on a large range. Of course the farmer with a free range will also have to use the mash but the birds will not eat as much of it and they wil harvest more of their own food.

One of the principal reasons for the failure of some poultry farms to make money is the cost of feed. The farmer who can raise all of his own grain obtains it at a price per bushel much less than the commercial poultryman who must pay another man for raising it plus the cost of hauling and possibly the profits of one or two middlemen. The farmer is insured a first class quality of grain and there is less danger of injuring the flocks than when the grain is all purchased.

Green food is necessary for winter egg production. A farmer can raise a crop of mangels with little expense aside from his own time in cultivating and weeding the rows The poultryman who buys mangels for his flock will find that it takes good money to obtain them and sometimes they are difficult to buy at any price. Clover and silage will probably be produced and stored on the average farm and they are excellent as poultry feeds. Skim milk and sour milk are two by-products that will be produced on many farms at a small cost and there is nothing better to stimulate egg production.

At a recent visit to a commercial poultry farm where more than a thousand birds are maintained in two long laying houses we noted that not a blade of grass grew in the yard. The birds did not enjoy a grassy range and depended entirely for their living on the feed supplied by the attendant. Sprouted oats were used as green food in the summer time and oats are high this year. The grain bins were filled with fine grain but the expense must have nearly used up the egg profits. It is difficult to see how such a farm can break even, if they have only the income from poultry and eggs sold at market prices.

The demand for increased production of poultry must be answered by the favor in the growing of vigorous stock. Of course he must have equipment depending upon the extent of the business. The commercial poultry farm which specializes in poultry to the exclusion of everything else must have high feed bills. The farmer who can raise young stock in the corn field and the potato patch or among the brambles at the edge of the clover field can watch the birds grow without paying a good price for every pound of growth. The laying hens with a broad range in an orchard and a patch of alfalfa will lay eggs at a moderate cost per egg. The farmer can usually grow chickens and some other crop on every acre devoted to the chickens. Young stock can be allowed to range even in the garden and they will render good service in keeping down bugs and worms and the injury to growing plants that have once obtained a start will amount to very little.

The specialist in poultry production has his place. He can breed for fancy points or high egg production. He is able to do trap-nesting carefully and the average farmer has no time for such work. He can become a student of poultry breeding and spend more time with his birds than is possible on a general farm. The specialist can become an expert in artificial incubation and sell day-old chicks of such a quality that the farmers will be glad to obtain them. However, when it comes to poultry production simply for the sale of meat and eggs the farmer has the advantage and a small increase in poultry raising on every farm will make a tremendous difference in the amount of eggs and poultry meat available in the coming years. Eggs and meat are now worth more to the country than the color of the feathers and the points on the comb and it is the farm poultry flocks that should be recruited to the limit in the present crisis.—R. G. Kirby.

Plan for a bumper fruit crop next year. Cover crops in the orchard this year will help.

What will raise bumper crops of WINTER WHEAT at least cost?

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Reg. Poland China Swine Sired by or bred to Half Ton Boars. Dam's weigh 7 hundred. F. Rowell, Hanover Virginia.

Overcoming Canning Trouble

Can Contents Shrinkage and Other Problems

Even in cans packed tight with material at beginning of the cooking period there is always some shrinkage of the contents during the cooking. This is worrying many who are processing (cooking in cans) for the first time this year. That air space at the top of the can and that shrinkage of liquid below the top of the contents will do absolutely no harm provided your cans are sealed perfectly air-tight and the contents are thoroly sterilized. This may seem a waste of can room, and one's cans do not look so attractive, but you positively must not remove the covers and pour in more liquid, because thus you are likely to introduce mold or ferment spores, which are not destroyed unless you return the can (with cover on) to the sterilizer for long enough to kill the spores, 8 minutes being ample for this. The material that is uncovered with liquid will not dry out because there is no opportunity for evaporation in the air-tight can.

To prevent as much as possible of such shrinkage such things as peas and beans should be thoroly blanched (preboiled) for the maximum time indicated in Farmers' Bulletin No. 839 on "Canning by Cold-Pack Method", obtained free of U. S. Department of Agriculture, Washington, D. C. This blanching reduces the food's bulk by softening the cell tissues and prevents water from being absorbed by the tissues during the processing.

With tomatoes, be careful to use the most solid ones, and to squeeze them together in the can as tightly as possible to expel air and juice from the cells, then fill up the cans with tomato juice. We hope that every farm is canning or drying all the surplus which the dwellers thereon can not sell in fresh state this year. Canners and the government are warning that as much food must be provided locally as possible because of transportation and supply difficulties. The commercial packs will largely have to be used for the army and city trade, and things will have to come from the nearby farms for the smaller towns.—The Editor.

Watermelon Pulp Pickle and Quaker Sauce

"Can you give directions for making watermelon pulp pickle and Quaker sauce? I make fruit delicacies for a particular private custom, and some of my customers have asked me to make these, but I know no rules.—Miss O. M. F., Niagara Co., N. Y.

Watermelon Pulp Pickle.—Measure 3 quarts of watermelon pulp cut in small pieces, removing all juice when measuring. Let stand one hour in cold water, then drain well. Have ready 1 quart of vinegar, 3 lbs. sugar, 1 oz. stick cinnamon and ½ oz. cloves. Boil the sugar, vinegar and spices 20 minutes, then add the watermelon pulp and let simmer 10 minutes. Seal in jars. It will be ready to eat in four weeks.

Quaker Sauce.—Boil down 3 gallons of cider to one-fourth of the quantity, pare and core as many mellow apples as the cider will cover. Divide the cider in two parts and put in two kettles over the fire. Put the apples in one of the kettles, and as they boil down add gradually the cider from the second kettle, which should be kept warm on the back of the stove. Boil 10 hours or until it is a rich brown color and smooth and thin. Then add a little ground cloves, cinnamon, allspice and brown sugar to suit the taste. Then boil one-half hour, stirring constantly. When done pour into jars, and seal. It is very delicious.

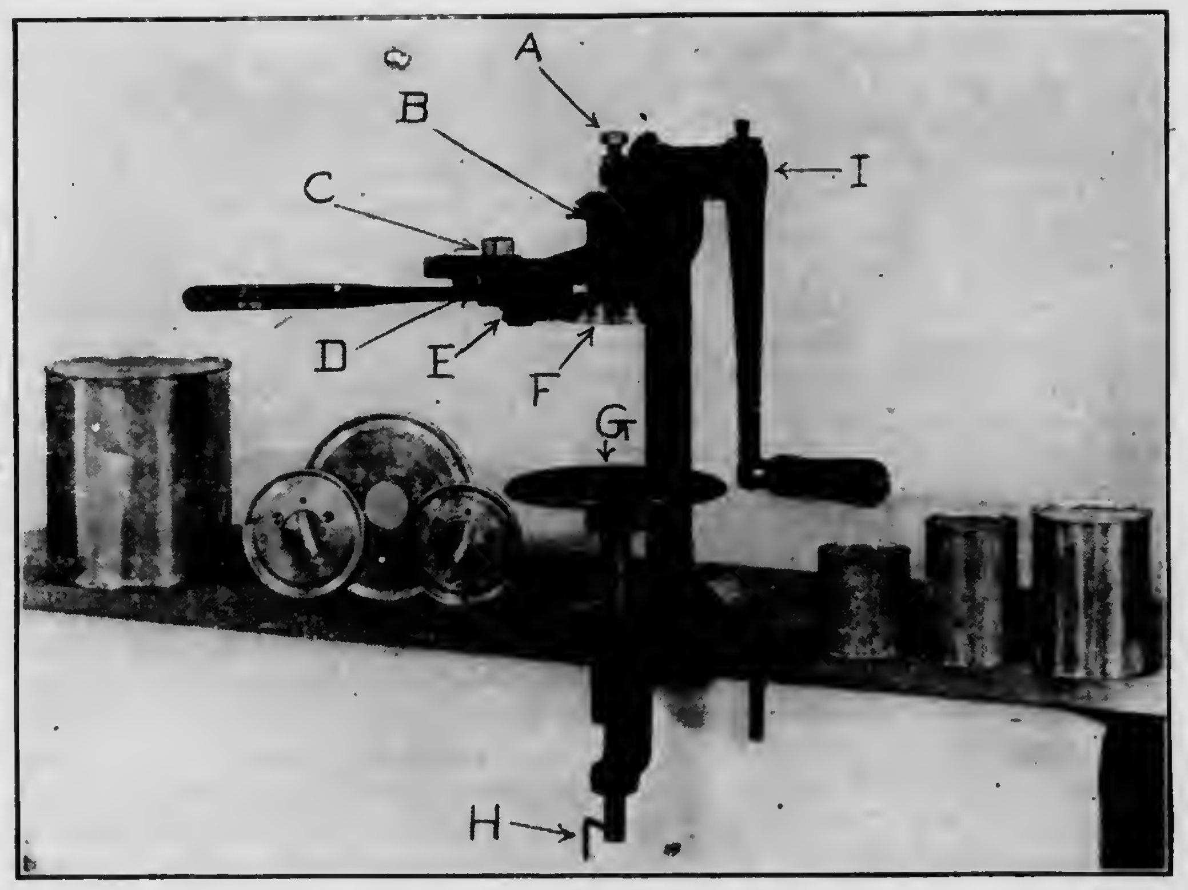
Here are two more good Quaker recipes that many readers may care for:

Shaker Apple Pie.—Pare, core and cut into eighths some sour apples and put into a lower crust, add ½ pint seeded raisins, put on the upper crust, being careful not to let it stick to the lower crust. Bake in a moderate oven until the apples are well cooked and the crust is nicely browned—this will require about 40 minutes. While the pie is hot take off the crust and lay it aside, then with a wooden or silver knife stir the apples and remove any hard pieces that may be left. Add sugar, nutmeg and a small piece of butter, and replace the top crust.

Quaker Tea Cakes.—Two cups rolled oats, 1 cup sugar, 2 eggs (beaten), ¼ cup butter, 1 teaspoon baking powder, 1 teaspoon vanilla extract. Drop the batter from teaspoon on a buttered pan an inch apart. Bake in medium oven.—Helen Lyman, Berkshire County, Mass.

Clean and Re-use Old Paraffin

Paraffin that has become unclean in canning and preserving may be cleaned and reused. Many times it can be cleaned with a brush in cold water. If this does not remove all the dirt, says a specialist of the United States Department of Agriculture, heat the paraffin to boiling and strain it thru two or three thicknesses of cheesecloth; or a thin layer of absorbent cotton over one thickness of cheesecloth may be used as the strainer. One straining should be sufficient ordinarily, but if the paraffin still is unclean heat and strain again. Any paraffin lodging in the strainer may be recovered by heating the cloth and pouring off the hot liquid to another strainer.



MACHINE FOR HAND-CAPPING TIN CANS AND BOTTLES WITHOUT SOLDER.

HAND POWER TIN CAN SEALER

Heretofore double-rim sealing of tin cans and bottles and jars with tin caps has been impossible for the home user of these containers because the capping had to be done with expensive power machinery. This year there are a few hand-power appliances for doing this that are not beyond the reach of the home canner who packs several hundred cans per year for family and private customers. Since most of the enamel-lined tin cans are planned for sealing with a machine without solder, and since the enameled cans are much safer to use for acid fruits and for peas, beans and corn, this appliance for doing double-seaming, as the machine sealing is called, is finding favor with small canners.

The double-seamer illustrated herewith will seal all sizes of tin cans, as No. 2, No. 3, No. 10 or gallon cans. The writer had an opportunity to try this one not long ago, and found that it is very easily operated by hand for capping either tin cans or metal-top bottles.

To operate it, one puts the cover on the can, sets the can on the table (G), directly under the chuck or double-seamer (F), then raises the can by turning the crank (H) to lift the can tightly against (F) so that when the crank (I) is turned, the pressure of the double-seamer (F) on the can will revolve the can. Then you push with your left hand the handle of the seaming-roll (E) from you as far as it will go; this turns the first seam. Next, to turn the seam under again (just as a seamstress finishes the turning of a hem), you pull the handle of the seaming-roll toward you as far as it will go. This completes the seal. One can seal cans very rapidly with this device. Screws (A), (B), (C), and (D) are for adjusting the sealer to different sizes of cans and jars. Similar devices are used for sealing the cans and bottles which you see on grocers' shelves, except that commercial packers use sealers that are run by engine power.

The sizes of cans which this sealer will handle are shown in the picture.

CANNING POWDER WARNING

The other day I picked up a booklet on canning powders, containing recipes for using a certain canning powder. I notice that this powder is being praised by very many who claim to have used it with great success.

Now I have used it and I feel it my duty to tell the many readers of our paper an experience we had with it in our family that should warn every one against its use.

I canned string beans one year, and during the winter I went on a visit, leaving my daughter to keep house. She cooked some of the beans and ate very heartily of them. In two days her mouth became covered with big white blisters reaching to the very edge of her lips, nearly filling up her mouth and closing the throat passage. Her father called the doctor. On his arrival the first question he asked was, "What have you eaten? This comes from your stomach and looks like poison."

When I came home, her lips were swollen to twice their normal size, and maybe we did not have a battle! Every night her lips stuck tightly together, even tho I melted mutton suet and covered them thickly. And every morning it took her from one hour to one and a half hours to soak and get them apart far enough to insert a rye straw so that she could use the wash, take her medicine and a little milk and raw egg for nourishment. For two weeks she suffered tortures. And when her lips began to heal, the corruption from her stomach was like yellow pus from a bad sore, and there were quarts of it. She lost flesh and was terribly weakened. We are thankful she was spared to us. At first we wondered our brains tired as to where she got the dose of poison until she spoke about cooking the beans. — Mrs. E. A. K., Lackawanna Co., Pa.

We hope that none of our readers will ever again use preserving powders. They all contain strong germicides which, if they do not poison, as in this case, always arrest digestion to a certain extent, and are therefore cumulatively unhealthful. Sterilizing with heat, either in canning or drying, is more reliable and perfectly safe.—The Editor.

RETIGHTENING CAN COVERS

Much fruit and vegetables in particular is doubtless lost every year by retightening can covers after the cans and rubbers have become cold. The rubber being softened by the cooking lets the cover sink into it as screwed down immediately after lifting from the boiler. Then when cool the seal is tight, and if you move the cover after the contents of the can are entirely cold the seal is broken and air passing into the can carries in ferment spores.

A lady complained the other day that her canned pieplant does not keep. She had several cans turned over on the table with the tops down to see that they were air-tight. In showing them she lifted a can and tried to turn the cover a little tighter. If she complains next winter that this can did not keep, the reason can be traced to her meddling thus with the cover when the rubber was cold.

Cold-Water Preserved Pieplant.—An easy way to save surplus pieplant is to cut the stalks up in small pieces, wash well thru several waters, pack in cans, pour in all the cold water that the can will hold. Have the covers and rubbers well sterilized in scalding water, and while hot screw them on. Uncooked pieplant canned in this way has been known to keep nice and fresh for two years. It is a quick way of preparing it for winter use, but not economical of can space.—Jessie E. Nye, Erie Co., Pa.

PRESERVE VEGETABLES BY FERMENTING

Sauerkraut and pickles (and rarely string beans and corn) put up in this way are fairly well known in this country but comparatively few persons have thought of trying it for preserving other vegetables, yet it is widely used abroad for preserving these and other succulent vegetables. Those who are short on canning containers this year may find this method useful. The following instruction about it is prepared by one of the bacteriologists in the Bureau of Chemistry who has been experimenting with this process.

The vegetables are not cooked but are put down in a salt brine in a non-metal water-tight container and are sealed up with paraffin and otherwise made air-tight. Under this treatment lactic acid will develop, and this acid, the value of which as food and body regulator has been recognized, acts as a preservative. Whether Americans will develop a taste for such fermented foods, which are highly prized in Europe, is open to question, but the investigator believes that many will find the process well worth trying.

To Preserve Cucumbers

Wash the fruit and pack in a clean, water-tight barrel, keg or crock. On the bottom of the barrel place a layer of dill weed and a handful of mixed spice. Add another layer of dill and another handful of spice when the barrel is half full, and when almost full add a third layer. If keg or crock is used, the amount of dill and spice can be reduced in proportion to the size of the receptacle. When the container has been filled to within a few inches of the top, add a layer of covering material—beet tops or grape leaves—about an inch thick. If any spoilage should occur on the surface, this layer will be the victim and thus protect the vegetables beneath. Press down with a clean board weighted with bricks or stone—do not use limestone or sandstone.

Make a brine of 1 pound of salt to 10 quarts of water. To each 10 quarts of brine so made add ⅔ quart of vinegar. The vinegar keeps down the growth of injurious bacteria until the lactic acid ferment starts, and it also adds to the flavor. Add sufficient brine to cover the material and let stand 24 hours. Then make air tight, as described below. The time necessary for a complete fermentation depends on temperature. In a warm place only five days to a week may be necessary: in a cool cellar three to four weeks.

Beets and String Beans

The strings should be removed from string beans before they are packed. Beets, of course, require careful washing to remove all dirt before brining. Then proceed as with cucumbers. However, if it is desired, when finally the beets or string beans are to be eaten, to wash out the brine and serve them as fresh vegetables, the addition of spice when they are put up is not necessary.

Make the Containers Air-Tight

There will be more or less foaming of the brine during the first stages of fermentation. After this ceases, a thin film will spread rapidly over the whole surface and develop quickly into a heavy, wrinkled membrane. This scum is a growth of yeast-like organisms which feed upon the lactic acid formed by fermentation. If allowed to grow undisturbed, they will eventually destroy all the lactic acid, then the fermented material will spoil. To prevent this scum from forming it is necessary to exclude air from surface of the brine. This should be done by either of two methods, 24 hours after the vegetables have been packed.

Perhaps the best method is to cover the surface—over the board and around the weight — with very hot, melted paraffin. If the paraffin is sufficiently hot to make the brine boil when poured upon it, the paraffin will form a smooth even layer before hardening. When hard, it effects an air-tight seal, like that when you pour paraffin on your jellies. Oils, such as cottonseed oil or the tasteless liquid petroleum, may also be used for this purpose. As an added measure of safety, it is advisable to cover the top with a cloth soaked in melted paraffin. Put the cover in place before the paraffin hardens.

The second method, which may be used with barrels or kegs, is to pack the container as full as possible, then replace the head. In using this method for fermentation of beets, cucumbers, or string beans, add the board and weights as described above, then let stand 24 hours before heading. During this period most of the gas first formed escapes, and the container may then be headed up tight, first removing the board and weights. Then bore an inch hole in the head and fill the space. Allow bubbles to escape. Add more brine if possible, and plug the vent tight. If the barrel does not leak, fermented products put up in this manner will keep indefinitely.

After sealing with paraffin the containers should be set where they will not be disturbed until the contents are to be used. Any attempt to move them from one place to another may break the paraffin seal and necessitate resealing. If the containers are opened in cold winter weather, the vegetables should keep without spoilage until they are used up. If opened in warm weather they are likely to spoil quite rapidly unless the paraffin is reheated and the container resealed immediately. In the case of cucumbers, it is preferable, if enough cucumbers are available, to use the method of packing in kegs or barrels as described above.

Only those vegetables which can not be kept by storing, or early ones that are not available later in the season, should be thus preserved. Late beets, for example, can be better kept in the cellar. This method of putting up cabbage by fermentation has a number of advantages over the usual process of making sauerkraut.

THE OIL CAN ON THIS DOES NOT PREVENT SEEING WHAT YOU ARE DOING.

A circular describing the fermentation method is now available for distribution from the States Relations Service of the Department of Agriculture, Washington, D. C.

SEASONABLE VEGETABLE RECIPES

Carrot Pudding.—One cup grated carrots, 1 cup chopped suet, 1½ cups flour, 1 cup raisins, 1 cup sugar, 1 teaspoon salt, 1 teaspoon soda, and any kind of spices wanted. Put the potatoes, carrots and suet thru meat chopper to save much time, then put them together in a bowl, add the sugar, salt and spices, then your flour with soda mixed in it. The raisins also should be mixed in with the flour and soda to keep them scattered thru the pudding. No liquid of any kind is used, for the juice from the carrots is sufficient when all are mixed together. It will be stiff like bread dough, but the steam moistens it as it should be. Steam 3 hours, and serve with some good pudding sauce.

Vegetable Omelet.—Mash the remains of cold vegetables, as spinach, cabbage, cauliflower or turnips, and mix with some mashed potatoes, chopped onions, pepper and salt, and one or two well-beaten eggs. Beat the whole well together. Melt some butter in a frying pan, pour this mixture in, keep stirring with a fork until cooked thru. Turn out onto a hot dish, put in oven two or three minutes. Serve very hot.

Tomato Surprise. — Peel and chill sound tomatoes of even size; when firm cut in halves and scoop out the centers. Break into the hollow of each tomato an egg without breaking the yolk, dust with salt and pepper, cover with a spoonful of thick white sauce, then with grated cheese, put in a hot oven, and cook until the egg is set to a jelly-like consistency.

Carrot Flemish.—Allow six good-sized carrots, five small onions, a sprig of parsley, ¼ pint of bacon or ham fat, or, if a milder taste is preferred, use ¼ pound of butter. Boil the carrots ¾ of an hour or until they are tender, cut them in dice, then stew them with the small onions, the parsley, pepper and salt and the fat. Serve while very hot. —Helen A. Lyman, Berkshire County, Mass.

SIGNS OF SUMMER

O, the bending bush is mirrored in the
stream
When summer comes,
And the sky's reflected in the blue-
bird's gleam
When summer comes,
And (aside from bird and brook)
I can tell where I may look
Where it verily will seem
Summer's come!

In the washing that is waving from
the line
When summer comes,
Hangs a very pink and cheerful blouse
of mine
When summer comes,
And the sober clothespins hold
Bits of green and blue and gold
That are truly Nature's sign
Summer's Come!

—Grace McKinstry.

POISON IN RHUBARB LEAVES

From our daily paper I glean an account of a whole family being poisoned by eating rhubarb leaves cooked for greens. I asked our farm bureau agent about the danger of poison from this source, and he says that rhubarb leaves contain a certain percent of oxalic acid, and that cooking may develop this acid in such quantities as to make them dangerous to the human stomach. In many localities the young tender rhubarb leaves are used for greens; we have used them with other greens when we didn't have enough other greens, but I never cared for them particularly for they are slippery when cooked.—Mrs. E. A. K., Lackawanna Co., Pa.

(Editor's Note.—Let us hear from others on this point. We have never advocated cooking rhubarb leaves because of this danger. The oxalic acid seems to be principally in the leaves.

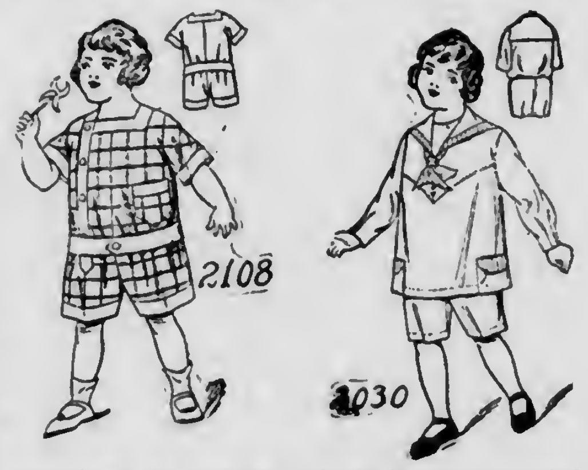
Can nothing that can be kept without canning. Dry such vegetables as corn, string beans, navy beans, mature lima beans, okra, etc.

Any form of unnecessary waste at this time is a crime against the country.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

2030.—Boys' Blouse Suit.—With or without shield and yoke facing, and with sleeve in either of two lengths. The blouse may be worn in smock or tucked into the trousers sailor style. The sleeve in short length is good for warm weather. The shield may be omitted, likewise the yoke facing. Pattern is in 4 sizes: 3, 4, 5 and 6 years. It requires 2½ yards of 44-inch material for a 3-year size. Price, 10 cents.



2108.—Boys' Play Suit.—The closing is at the side. Pattern is in 4 sizes: 2, 3, 4 and 5 years. It requires 2¼ yards of 36-inch material for a 3-year size. Price, 10 cents.

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That's the result when you use 20 Mule Team Borax. It softens the water—it helps the soap do its best work—it whitens the clothes and makes your linen take a glossier ironing. But the laundry is only one of the many places where

20 MULE TEAM BORAX

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20 Mule Team Borax Soap Chips

Soap in chip form. Saves you soap cutting. Blended in the right proportions, one part Borax to three parts of *pure* soap. *Not* a substitute for Borax but a time, labor and money saver that will pay you to use every wash day. See the picture of the famous 20 Mules on each of the above packages. Sold by all dealers.

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Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. ☞Send for descriptive circulars, testimonials, etc. Address
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My Methods with Live Stock

Big Crops and Good Live Stock Spell Success

By GEORGE FRERICKS
Iroquois County, Ill.

Thirty-five years ago I landed in this country with twenty-seven dollars. Since then I have raised eight children and now own over 700 acres of land, worth $300 per acre. Careful live stock farming has made the money.

I first took to the growing of big crops, for without that no man can make a success of farming. A half crop won't do. Some people seem to think that if they get a good living that is enough. If the farmer stops to think, he can plainly see that it takes a good deal of money to carry his farm from one year to the next, and that if his farm is not made to produce maximum crops it is not making all for its owner that is possible to get out of it. If you own your own farm, your money is invested in that land. If you make the soil respond in big crops, you may credit your profits in terms of interest on the investment. If you only half farm it, the expense is greater than the crop will bring when sold. In that case, a farmer is not only being deprived of his interest, but he is being compelled to use up some of the principal. I need only to mention this fact, for all of us know dozens of farmers who are standing still financially and some of them going backwards for the very reason I have pointed out.

MRS. NORMAN WEBB AND TWO FARM PETS NORTHUMBERLAND CO. PA.

To grow big crops, it is necessary to have rich soil and to have the land properly tilled. After that comes the careful preservation of the ripened product, grain, hay or whatever it may be. Rich soil is made where manure and leguminous roughages are found in abundance. Live stock farming provides for both of these. We ordinarily have around 300 acres of small grain to thresh, and instead of seeing how much of this straw we can have on hand the next spring, we see how much of it we can use. We sell straw to teamsters in near-by towns, at $2 a load, and they return us a load of manure when they come for more straw. We bed all our live stock generously during the winter, so that we usually have little straw left the following June. We keep a good many horses and cattle, which makes a good deal of manure, and by using plenty of straw we are able to save this manure and get it onto our fields, instead of leaving it to deteriorate or to be lost entirely around the barn lot. Because we need lots of alfalfa and clover hay for our Percheron horses and Shorthorn cattle, we have an abundance of leguminous roughages to keep up the fertility of our land. Here again maintaining the productive power of the soil and the growing of live stock work together most advantageously. The more live stock we keep, the more of this kind of feed we need, which means more nitrogen returned to the soil from whence it came. Live stock farming, rightly carried on, never robs the fertility of the land, but always adds to its richness.

We are able to till our land well because we use big draft horses. They are able to pull the big machinery, and we don't have to be afraid to let our plows in the ground or set the harrows up straight. When five and six of these big mares, weighing 1,700 pounds or more, are hitched to one implement and driven across the field, one can see what has been done. It is not only a big advantage to a crop to be placed in a seed bed that has been thoroly pulverized, but there is the added factor of having the crop in on time. By using plenty of horse power we stir our soil up well, and we do it in a hurry. With seasons like those for the past three or four years, we find that we can outdo our neighbors who use small horses, because our equipment in horses and tools enables us to get our crops planted in better shape and in a good deal less time. We have the same advantage when it comes to harvesting a crop.

Our crop, once raised, is best marketed thru live stock. Instead of selling off the fertility of the soil, every possible bit of richness should be turned back to the land. Even when crops are fed to live stock and the manure is carefully saved, only about 75 per cent of its fertilizing value can be returned to the fields. Leguminous crops so beneficial to our soil, are the most desirable roughage for growing draft colts and cattle. I have kept an account of the amount of oats our foals have eaten over a period of years, and the figures show that I have gotten a dollar for every bushel of oats the youngsters have consumed. Grow plenty of grasses, pasture them off, and get the manure out on the land without any expense or trouble in handling it. Cover crops conserve soil moisture in the fall and make excellent feed for growing animals when the regular grasses are burned up with the blazing August sun. Grasses, and roughages particularly, bring several times their value if fed into good live stock instead of being sold on the market as a separate product.

The kind of live stock one keeps determines the profits from the farm business. The best always make the most money in the end, if rightly handled. Cattle and hogs go together. The fat or lard type of hogs fits in best with the cattle business under corn belt conditions. I have always been a strong advocate of the cow that will produce a good beef calf and in addition enough milk to raise it well and have some left for the table. If more of this kind of cattle were used thru the country we wouldn't have the present shortage in beef. The cutting up of ranches in west and poor crops thru the corn belt states have curtailed this industry alarmingly. The time is upon us when every farmer ought to be raising a few good beef calves every year, and there is no mother that will do it so well or so cheaply as a good milking Shorthorn cow.

I have always been interested in good horses and I suppose I always will be. When I came to this country I set about to breed the best class of draft horses I could produce. I was the first man to sell a grade draft horse out of our county for $300 and as far as I know, I am the only man who ever sold a grade team of drafters from this community for $775 for the pair. I have bought and sold weanling Percherons for $400 to $500 a head. Last fall I sold a six-year-old imported Percheron stallion for $7,000. He is a good individual and a great breeder, but I would never have been able to consummate this sale if I hadn't selected good mares to mate with him and then given the offspring the very best attention in feed and care. The great secret in producing draft horses successfully is to know how to develop them.

USING THE WINTER MONTHS

Catering to a Home Market

Every farmer makes the most of the production months of summer; else he isn't a good farmer. The exceptional man finds a way to use the winter months to equal advantage. Norman Webb, of Northumberland County, Pa., has proved himself such an exceptional farmer, and his work carries lessons for others similarily located. Mr. Webb is three miles from his market town. He had an empty house on the farm, a team of horses with little winter work and a hired man and himself with little farm work to do during the winter season. His farm work was pretty well over by the last of October. He took an inventory of conditions and decided he could use these conditions to advantage.

He fitted up the old house as a butcher shop, for butchering animals and preparing and curing meats. He buys hogs all thru his valley and some outside, being careful that all are in good health. From October 27, 1916 to March 21, 1917, he bought 109 hogs, paying 12 cents per pound in the early season and 15 cents per pound for the last ones. He paid $2,214.61 for the 109 hogs. A large proportion of the meat was made up into smoked sausage, scrapple and pudding, all good Pennsylvania products. The products are hauled to market in a white, neatly trimmed market van and sold directly from the van. There is a small heater in the van to keep the attendent comfortable while at the market stand.

Mr. Webb and his wife do the selling. They arrive at the market early and usually both are kept busy until the load is sold. They have two sets of scales and both weigh and sell during the heaviest rush, but usually Mrs. Webb takes the orders and Mr. Webb cuts the meat. The van is high enough so the meat is out of reach of customers' hands and there is no handling of the product. The load is usually sold

out in two hours' time, often bringing as high as $145.

As in all successful marketing projects, the quality of the product is given first consideration. The reputation of these products have gone far beyond the local market. Express lots are sent to all parts of the state, and some to other states. Cans of lard have been shipped as far as Massachusetts. W. T. Creasy, former Master of the Pennsylvania State Grange, took a package of the Webb smoked sausage to President Wilson. It was thru Mr. Creasy also that the Pennsylvania Farmer staff learned of this most appetizing sausage, and three orders have gone out from this office in the past winter, with a heavy repeat order assured for next fall. The uniform excellence of the product is the best salesman after the quality is once known.

The accompanying illustration shows Mrs. Webb with one of the pets of this general farm. Mrs. Webb is a niece of Mr. M. S. Bond, who is well and affectionately known by a wide circle of Pennsylvania farmers. It is in the happy surroundings of the Webb home, happy because busy, that Mr. Bond has stayed young at the age of eighty-three.

HORSES INDISPENSABLE IN WAR

There seems to be a rapidly increasing opinion that the day of the horse in war has passed. The nearly three years of warfare in Europe has shown this to be an entirely erroneous idea. On the Eastern or Russian Roumanian front where there are few good roads, in other words where the road conditions are somewhat similar to those which ordinarily obtain in the United States, the horse has not only held his own for the mounted services, such as the cavalry and artillery, but also for supply purposes. Again and again the armies operating on this front have found the arrival of supplies and ammunition dependent upon the use of horse transport. Even on the Western front, where the road system is probably the best in the world, mechanical traction has not been able to displace the horse.

In general, it might be said that the line between mechanical and horse traction on a battlefield is the extreme limit of the enemies' artillery fire when any heavy action is going on. The horse is used on the battlefield and the mechanical traction in rear of it. Of course during calm periods, mechanical traction is used along the rear part of the battlefield. There are various reasons for this division. Probably the main one is that batteries frequently must be placed and supplied in positions some distance from a road. Often the country to be traversed is so rough that a tractor cannot get over it. If the army is operating on conquered ground, this generally is so cut up with old trenches and shell holes that horse traction and only horse traction is practicable. Frequently the mud is so deep that mechanical traction is helpless. In many cases the situation is such that no wheeled carriages of any kind can move. In such cases, pack animals have to be used.

So well are these conditions recognized that in spite of the tremendous weights of heavy artillery material and the slowness and difficulty of moving them by horse traction, it is considered that only half the heavy batteries should have mechanical traction. The remainder are horsed and thus the means is always available to move the batteries, no matter what the difficulties. Therefore, in general, it may be said that an army must still have animals for all its cavalry, the usefulness of which is far from disappearing; it must have horses for all its light field artillery, half its heavy artillery, and all of its regimental and divisional supply trains. Incidentally, every regiment of infantry must have several hundred horses and mules.

The more the question is examined, the more two facts stand out. The first is that certain work in modern warfare can only be done by horses. The second is that the number of horses needed for armies which are counted by the millions, must be counted by the hundred thousands.—Col. H. P. Reilly, U. S. A. Officer.

GOOD DOGS ARE USEFUL

We all understand that the horse has been bred and trained for one of two purposes, for draft or for road purposes, and no cross between the two types gives satisfactory results. The same with the dog. It is raised either for hunting wild game or for domestic purposes, with some variations. It is my opinion that no breed of dogs can outdo the Scotch Collie for intelligence. They can do everything but talk, and when you get to understand your dog it can almost do that with the different tones and sounds it makes when barking.

Three years ago we came in possession of a female Collie pup. Up to that time we had had no experience with a dog except to have them kill sheep for us on three or four occasions. Naturally we had our doubts as to a dog being any good. There is an old saying that "A dog knowns no more than its master," but in my case the dog knew more than its master, for I knew nothing about how to train her. But she anticipated my wants and acted accordingly. Had I only known it, that was the time to train my dog most effectively, for what they do once they will do again under the same circumstances.

A PROMISING BUNCH OF PUPPIES.

Now this dog is a great help. After plowing or pitching hay all day, it is much nicer to go to the pasture bars and whittle or whistle while the dog rounds up the cows. Our corn field last year was open to the public road. I often let the horses out in the evening to pasture by the road side. If they got too close to the corn, the dog gave warning. Then if I whistled she would drive them back. It is very seldom that she offers to bite anything she is driving. She does her work by circling around the animal and barking a shrill sharp "yip" that is much better than a nip.

As a watch dog she has gotten me up six different nights, and on those occasions we have killed 2 o'possoms, 3 muskrats and one skunk as they were prowling around the chicken coop. She barks quite often at night but I can always tell when she is wanting help. Here good breeding counts as well as with any other animal, for she has a litter of pups once or twice a year which sell for $5 each and in this way her tax is already paid several years in advance. Her grandsire was imported from Scotland at a cost of $650, so I have as much right to be proud of my dog as some people have of their cattle.—A. P. Elder, Mercer Co., Pa.

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ELLICE'S CAREER

By Irene A. Morse

‘‘Yes, I intend to be a business woman. I am going to the city next week to learn how’’; and from her seat on the davenport Ellice Merway glanced up at her old friend, John Danning, in order to observe the effect of her announcement.

‘‘So you have finally made up your mind to go, Ellice,’’ replied John, looking regretfully at the girl.

‘‘Yes, I really have, and everything's been arranged, even to my boarding place; so this will probably be the last Sunday evening visit we shall have for a long time.’’

‘‘And where are you going to board, Ellice?’’ he asked after a brief silence.

‘‘At Mrs. Wayne's. You know she is the lady who visits at the Smelley's every summer.’’

‘‘Yes, I know,’’ responded John thoughtfully. He had often seen the middle-aged widow during her summer sojourns in the neighborhood, and the impression left upon him by her bold, black eyes and flashy clothes had not been a pleasant one.

‘‘Why do you go there?’’ he queried. ‘‘Couldn't you find any other place better to your liking?’’

‘‘Well, you see,’’ explained the girl, ‘‘we know her; besides, she will board me cheaply, and she lives within walking distance of the business college, so I shall not have to pay car fare.’’

‘‘But, Ellice,’’ John persisted, ‘‘you are doing well enough here. You have been a very successful teacher. Why do you wish to go away?’’

‘‘Oh, John, that's not it. I have lived in the country all the twenty-one years of my life, and I'm tired of it. Its the same old thing. Go to church on Sundays, and to a ‘social’ now and then; and once in a great while, a trip to town. I have always wanted to see what city life is like, and now that I have taught three years and savêd my money, I am going to have my heart's desire.’’

Here John came and seated himself beside the girl on the davenport, but she laughed rebelliously.

‘‘Oh, you can't talk me out of it. I have made up my mind; and you know I have the lion's share of the Merway stubbornness.’’

‘‘See here, Ellice, marry me, won't you? I have cared for you ever since I was old enough to know that one girl meant more to me than another. I would like you for my wife. Somehow, I have always thought of you and me as being married, and living in that little cottage on the fifty-acres that father gave me on my twenty first birthday. I know the house is somewhat out of repair, but we have been doing a little as we had time to get it in shape, and soon we could have a nice home out of it. Say yes, Ellice,’’ pleaded John earnestly, bending his head to look into the averted blushing face of the girl.

Ellice was touched by his words, but her whole mind was centered upon going to the city, and to all his pleading, she would only answer that she did not care for him as she ought, and was not ready to settle down yet.

And John, knowing her so well, realized that all argument would be in vain, and so desisted after awhile, and actually tried to advise her as best he could.

‘‘John, haven't you any ambition other than being a farmer?’’ asked Ellice later on as he was about to go home.

‘‘None, Ellice. To my notion, the farmers are the aristocrats of the earth, and I know that I would never be more happy than on a farm.’’

‘‘Well, I suppose I ought to feel that way, too, for nearly all my ancestors have been farmers; but I think some one among them must have had an insatiable longing for the city, and it has cropped out in me, for even when a tiny girl whenever I would stand all by myself and look across the fields at the trees in their autumn colors, or gaze upon their pale green foliage in the spring, I would always be thinking of the great world that lay beyond all this in some far-off city where lights were twinkling and crowds of people were passing to and fro.’’

A long pause followed, during which John thought hard. Then he spoke gravely: ‘‘Of course, Ellice, if you feel that way, the best and only thing to do will be to try it.’’

Soon afterwards they bade each other farewell, and John started to the door, but presently turned and came back to where Ellice was standing, and taking her hand in his, said huskily: ‘‘Girlie, if in that distant city to which you are going, should you ever need a friend—a good true friend who will stand by you forever and a day—you'll know where to find him, won't you?’’

‘‘I will, John, I will,’’ replied the girl brokenly. ‘‘Goodby,’’ and she hastily withdrew her hand, fearing that she might lose control of herself entirely.

A week later, and Ellice was all settled in her new home. To be sure, Mrs. Wayne lived on a rather dingy street, and in a still more dingy house; and the furnishings of the latter, like the home life they reflected, would not well bear a strong light; but it must be said that she was very kind to her young boarder, very particular as to the people she met, and violently opposed to her forming any acquaintanceship with the other roomers in the house.

But, besides Ellice, there was one other boarder—a man named Brown. He seemed a quiet, inoffensive sort of fellow, always kind and respectful in his manner toward her, but she could only with difficulty conceal her contempt for him.

To her, his manner of gaining a livelihood was especially distasteful; for he continually skirmished the poorer parts of the city for the purpose of inducing children to sell a certain quantity of chewing gum for a prize. And since Ellice surprised him one afternoon, soaking some of his prize watch chains in a preparation guaranteed to restore all tarnished articles of brass to their former brightness, her indignation was past curbing.

‘‘A house is not a home without a man about,’’ remarked Mrs. Wayne one day as if to condone Brown's presence in the heart of the household. ‘‘Of course,’’ she continued, ‘‘I know very well a poor widow like me can't take a man boarder without the neighbors talking, but if I cared for what people said, I'd been dead long ago.’’

‘‘Of course,’’ she finished, ‘‘you needn't say anything about this to the folks in the country, Ellice.’’

‘‘Don't worry; I'll never mention it,’’ replied the girl decidedly, but she mentally resolved to seek a new boarding place as soon as she got to earning money.

Somewhat disheartened by this early example of city people's disregard for the proprieties, Ellice took up her studies with increased energy. The monotony of study hours was broken only by occasional trips down town where attractively arranged shop windows, and the hurrying crowds held for her a never-waning interest. Equally fascinating was the sight of the ships that came and went on that great lake. One afternoon, she saw on a big freighter a name that caught her fancy—‘‘The North Wind.’’ ‘‘I like that name,’’ she reflected, ‘‘What a wild, lonesome sound it has. I wonder where it is bound for. Oh, but I am glad I came to this big city; for here is still another world beyond it—the world out on that great water—all this to learn about.’’

And with so much at hand to amuse and instruct, time passed rapidly. At the end of five months in a business college, she was sent out to a position. Filled with delight, she hastened to write the good news home, feeling that she was now fairly launched in business life. Subsequently, she changed her boarding place to a better section and soon she found a firm friend in her new landlady, Mrs. Willett.

Ellice's work was with a big dairy company. She smiled a little ironically to herself to think that, even here, rural associations were destined to follow her, for she was obliged to figure continually in terms of butter, milk and cream. Everything really did look favorable for a promising business career for her because to say that she worked for the Lilydale Dairy Company certainly did give a girl prestige in the commercial world, since it was a widely known fact that this firm employed only girls of superior worth and paid for their services accordingly.

The head of the clerical department was a woman, too, a Mrs. Lane who had attained considerable success in a business way. In truth, a loquacious clerk soon informed Ellice that Mrs. Lane drew at least $250 a month, and had stock in the company besides. Ellice was properly impressed by this information, and straightway began to look upon that lady as already a dweller upon those hights to which she was just beginning to climb.

At the home of a classmate in business college, Ellice had met a Mr. Dean, the son of a prominent hardware merchant in the city; and on one memorable occasion, he had taken her to a dance given by an exclusive club to which he belonged. Mr. Dean was a tall, thin young man whose elegance of deportment and irreproachable taste in clothes tended to produce their full effect upon the young country girl; and she was vastly pleased by his attentions. But presently, there arose the eternally feminine problem of clothes.

‘‘I simply must have an evening dress of some kind,’’ confided Ellice to a fellow clerk one day at lunch hour.

‘‘Then you will need a coat and hat to wear with it,’’ came the reply.

‘‘I could manage the hat,’’ sighed Ellice, thinking of the latent possibilities in an old shape and some trimmings stored away in her trunk, ‘‘but I just can't get the coat this pay day. And what am I to do, for I want to wear the dress to a party this month.’’

‘‘Wear my coat,’’ answered her companion. ‘‘It is only a plain black silk affair, but you are welcome to it.’’

‘‘I never wore a borrowed garment in my life!’’ exclaimed Ellice, and after a few moments' thought she added, ‘‘Oh, I just couldn't do it, but I thank you just the same.’’

However, her friend explained that city people often rented dresses for an evening; and finally brought so much evidence to bear upon the subject that Ellice consented to wear the coat.

It was a lovely party. Mr. Dean had never before been so attentive; Ellice had more than her share of admirers and was elated by her success. Her inexpensive dress was wonderfully becoming to her dark, young beauty, and many a girl in a costly gown glanced enviously at her red cheeks and glowing eyes, and wondered in a bored way what one could possibly see in such a tame, every-day affair as a dance to be so happy about.

And this was only one of many parties that she attended that winter, and to all of them Mr. Dean was her faithful escort.

Ellice had a fine time; notwithstanding that a number of new articles required now and then to freshen up and to effect skillful changes in her much worn gowns, was wearing on both brain and pocket-book, and with great distress of mind, she often found herself reduced to her last dime just before pay day.

Ellice's health also began to rebel against the unaccustomed strain of late hours, and she discovered, to her dismay, that her work was likewise influenced. Fearful lest Mrs. Lane's suspicions should be aroused in that direction, she sensibly resolved to accept invitations out only at rare intervals, and in the meantime to attend strictly to her work.

But Mr. Dean objected strongly to this new rule, and showed a disposition to be quite sullen even tho Ellice fully explained to him the reasons for her decision.

‘‘How can any one be so unreasonable?’’ she remarked confidentially to Mrs. Willett one evening. ‘‘I am doing what I think is right; and what is more, I shall stick to my resolution if it costs me Mr. Dean's friendship.’’ And Mrs. Willett quite agreed with her boarder.

After the holidays, however, John ran up to the city for a short stay: and in the excitement which followed, Mr. Dean's stubbornness was speedily forgotten. Ellice now thought only of John's amusement.

They went to the theatre one night to see a famous actress and afterwards dined at one of the nicest restaurants in town; and at dinner Ellice observed that John's tie was quite correct, and that he seemed in no danger of being overwhelmed either by the sumptuousness of the repast or the elegance of the service, but behaved quite as if all the farm dinners he had ever eaten had been many-course affairs.

But during all of John's stay, Ellice could talk of nothing but her work and the advantages of urban life. She was thrilled with the idea that she was a part of the hustle of the city and at last had a place in its great commercial heart.

‘‘Oh, John, there is so much to learn, so much to see, so many, many opportunities for improving one's self!’’ she would tell him over and over again.

And John listened to his lady very patiently and really tried to share all her enthusiasm about the city, and never spoke a word of the plan that was uppermost in his heart, for he saw that it would do no good: but when he reached home again he looked so sad and dejected that his mother, surmising the cause, said: ‘‘Never mind, son, let her have her fling. Everything will come out right, or I'm mightily mistaken in that girl. There's too much of the eternal woman in her make-up for her to take up with this business idea for life. You'll see that your old mother knows a thing or two after all.’’

John was not convinced, however; but, nevertheless, the comfort of his mother's words was his only hope thru all the long months that followed.

In the meantime, Ellice was daily going back and forth to the office. Mr. Dean continued his calls, but every time she was forced to decline a too-frequent invitation he took the refusal as a personal offense, and would sulk for days afterward; a phase of his disposition which both hurt and amused her.

Finally, one night Ellice came home from the office tired and half sick with a cold, but still she was making preparations to accompany Mr. Dean to a party later in the evening.

‘‘I wouldn't go out tonight, Ellice,’’ said kind-hearted Mrs. Willett. ‘‘Your eyes are red, child, and you don't look at all like yourself.’’

‘‘Well, I think I had better go, since I promised,’’ was the listless answer.

And so she went; but the next morning as Mrs. Willett on her way down stairs was passing her boarder's room, she heard her name called in a faint voice, and stepping inside the door, she beheld Ellice, with feverish countenance, trying to prop herself up in bed.

‘‘Lie down, dear; you are sick,’’ commanded Mrs. Willett, gently pushing her back on the pillow. ‘‘I knew you ought not to have gone out last night.’’

‘‘Oh, but you don't know how it was,’’ said the girl, wearily.

‘‘What do you mean?’’ inquired Mrs. Willett sitting down on the side of the bed.

‘‘Well, you see,’’ explained Ellice, ‘‘Mr. Dean had been indulging in a pouty spell for some time, but had finally recovered enough to ask me to go to this May party. And he was so lovely that I consented to go.

‘‘But when I caught cold I called him up and told him how I felt and that he had better take some one else. But no, he wouldn't do that; instead, he assured me that a cold didn't amount to much, and that I'd probably be able to go when the time came.

‘‘Well, I knew he would be terribly disappointed and cross, too, if I didn't go, so I said no more; but last night I did speak about being so hoarse, and he said: ‘Oh, that is nothing; you'll feel all right when you get to dancing’. But, Mrs. Willett, I didn't’’

‘‘I could hardly drag myself up to my room last night, and this morning when I tried to get up I was all a-tremble and couldn't stand on my feet. I crawled back into bed, and here I am. And now won't you please telephone Mrs. Lane right away that I can't come to work today, but I will be there tomorrow.’’

Ellice, however, did not go to work the next day, but on the third morning she was back at her desk.

Mr. Dean, nevertheless, had fallen from favor in her eyes, never again to be re-instated. In vain he apologized and deplored his lack of thoughtfulness, but she would have no more of him.

‘‘He is just purely selfish,’’ she reflected. ‘‘He knew I was sick that night, but he liked to take me places, and he trusted to luck that I would be none the worse for going out. He may argue all he pleases, but I know him now for what he is,’’ and she sighed as she thought of one who always considered other people's comforts before his own.

But as a consequence of her decision, she was destined to spend many a lonely hour, for not until Mr. Dean's joyment; and tho many an evening she waited at the corner for her car with a heart like lead, she made no sign, but with lips tightly pressed together, went courageously on her way.

In August she went home for a vacation. It was good to be home again, yet Ellice was disappointed in her visit, for John Danning was absent on a business trip, and she had counted so much on seeing him and talking things over with her old friend that his absence placed a damper upon her pleasure.

Several weeks after her return there came an enthusiastic letter from John which in part read thus: ‘‘I was mighty sorry, Ellice, that I was away when you were home on your vacation, and I am more sorry yet that I can't run up and see you before I go away again. I expect to take a short course in agriculture this coming winter. I shall be as busy as can be, getting things in shape so father can manage while I'm gone. I tell you we are going to make this old farm pay all she is worth. Some one else is going to learn a few things now. But don't get mad, Ellice, that's not a slam.’’

She read the entire letter thru twice and laid it down with a sigh. Somehow its enthusiasm and cheerfulness jarred upon her. She would have felt better had its tone been a trifle less buoyant.

The winter came and went, and Ellice was twenty-three now. She often wondered what was the matter with her these days. She had lost nearly all of her old enthusiasm, and in spite of her best efforts, life had settled into a mechanical round. She counted time by pay days. The daily rides in the crowded cars, formerly so interesting, now began to fill her with sickening dread. There was no use grieving about it, but Ellice knew that a certain roseate glow that once invested things in her eyes had now gradually slipped away, and try as she might, she could not win it back. ‘‘It must be because I am growing older, and getting deeper down into life,’’ she told herself. ‘‘I have heard so much about the long, rough road to succes, and now that I have begun, I must stick to it—and die game.’’

With the advent of spring, there came a change in the Lilydale Dairy Company, for the latter firm and an ice cream company decided to combine. Consequently, there were busy days in store for all the office force. An expert accountant examined the books, and poor Mrs. Lane had a sorry time of it. The in-coming firm criticized her bookkeeping methods, terming them unsystematic and out-of-date, and Ellice noticed that she often came out of the manager's office with red-rimmed eyes. It was even rumored about the office that if there was a change in management, Mrs. Lane might lose her place. Instantly, it flashed upon Ellice that the situation of a business employe was most uncertain: for she saw that Mrs. Lane's fine position, reached only after an upward climb of years, could be whisked from her in a thrice; and for a woman of her age to secure employment, equally lucrative, would be extremely difficult.

But, gradually, the company's affairs became adjusted; Mrs. Lane's situation was safe; and the result of the consolidation was a bigger, better company with more work, more help and, best of all, an increase of salary for every one.

One day, after the two had been doing some extra work together, Ellice went with Mrs. Lane to her boarding house for dinner, after which the two had a good old-fashioned visit and heart-to-heart talk. Among other things, Mrs. Lane said:

‘‘The trouble with so many girls is that they don't know what real love is. They think it is some great, wild, absorbing affection that is going to completely transform them. Such love may, and does, perhaps, come to some, but the great majority of us women have to be content with a quiet, steady-going affection based on mutual respect, and a desire to live our lives peaceably with each other. I have known many a girl to turn down some plain, honest young fellow, because she was waiting for the first kind of love to come along.’’

Here Ellice colored guiltily, and faltered, ‘‘Maybe I have made a mistake; there was a boy down home. His name was John—’’ but she could get no further.

Mrs. Lane gave her one keen glance and went on as if she had not heard. ‘‘There is never a girl comes into our office, be she ever so competent or capable, that I am not glad to see her leave to get married, provided I think she is doing well.’’

. . . . .

One afternoon, some two weeks, later, the telephone bell on Mrs. Lane's desk, next to Ellice's, rang sharply. ‘‘Hello,’’ said Mrs. Lane. ‘‘Yes,’’ came next, and then, ‘‘Telephone, Miss Merway.’’

‘‘Hello,’’ said Ellice, indifferently, but at the sound of a familiar voice at the other end, she uttered a sharp ‘‘Who?’’ And then, ‘‘John, is that you? When did you arrive.’’

‘‘Just twenty minutes ago,’’ replied John's voice. ‘‘How's business, Ellice?’’

‘‘Oh, not very well,’’ hesitatingly, ‘‘that is, I mean business is all right—but what do you mean, anyway?’’ But only John's hearty laugh came ringing back to her.

‘‘Well, aren't you about ready to go home?’’ was the next question.

‘‘Home, why no—not for hours yet. It is only 1.30 now.’’

‘‘Oh, I mean down home with me,’’ explained John.

‘‘Why, how can I—what a question!’’

‘‘Well, I thought you were about ready, so I came up to get the license.’’

‘‘John, what are you talking about—over the telephone, too. Somebody'll hear you,’’ warningly.

‘‘I don't care if the whole world hears me ask you to marry me.’’

‘‘John,’’ emphatically.

‘‘Well, Ellice?’’

‘‘Well, I don't know what to say to you.’’

‘‘There's only one thing for you to say.’’

‘‘How—how are all the folks down home?’’ floundered Ellice.

‘‘Oh, they're all well. But say, Ellice, that last letter you wrote home had an awful lonesome sound to me.’’

‘‘I was not aware of it,’’ coldly; then she added, ‘‘surely they didn't show it to you.’’

‘‘No, but I happened in while it was being read, and they didn't see fit to stop reading, just for me.’’

‘‘Well, John,’’ said Ellice, recovering herself, ‘‘we are awful busy.’’

‘‘You won't be so busy along about eight o'clock this evening, will you, Ellice?’’

‘‘Well, no—not quite,’’ faltered the girl.

‘‘I guess I'll drop in about that time, then. I want to ask you a few questions—such as your mother's maiden name, birthplace, and so on, Ellice,’’ as if afraid she might not be listening.

‘‘Yes,’’ came in faint response.

‘‘At eight o'clock, then, remember.’’

‘‘Yes, goodby,’’ and Ellice, with flushed face, hung up the receiver.

As she seated herself at her desk, she glanced shyly across at Mrs. Lane who was industriously studying a credit card, and said softly, ‘‘John's come.’’

Mrs. Lane made no reply in words, but there was a world of understanding in the eyes that smiled back at her.

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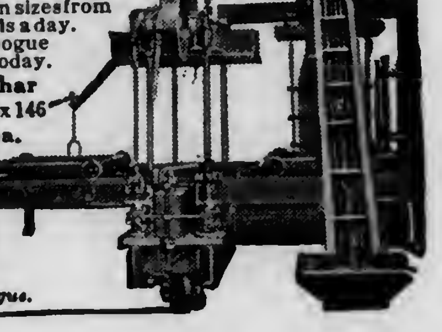

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., August 6, 1917.

The extreme hot weather of the past week has reacted and the markets have been quiet. Shipments from the South and West have suffered because of late arrivals and much of the stock when offered is of inferior quality due to delay in transit. Receipts of potatoes have been lighter and the market held firm at fair prices. Eastern Shore shipments are selling at $3.25 to $3.50 per barrel for the best grades. Jersey potatoes met with a better demand at 60 to 75 cents per ⅝-bushel basket for prime quality and at 40 to 50 cents per second grade stock. Limited shipments of North Carolina sweet potatoes are meeting with a good demand at $6 to $6.50 per barrel for No. 1 and at $3 to 4 for second size.

Vegetables

Second cutting of sugar corn is draggy on the market and selling mostly at 40 to 50 cents per basket. Fancy first pulling of sweet corn is in strong demand at 60 to 75 cents per ⅝-bushel basket. Pennsylvania sugar corn is arriving in good quality and condition and selling at $1.25 to $1.50 per hundred ears. Fancy green beans are in demand but stock must be young and tender to bring top price. Sales on green beans range from 30 cents for coarser beans to 50 cents for younger beans in ⅝-bushel baskets. Fancy wax beans are selling as high as 60 cents per basket when clear from spots and blemishes.

A heavy supply of cucumbers has lowered prices to a losing plane for growers. Jersey baskets are selling at 15 to 30 cents with a few small fancy cukes selling at 40 cents. Delaware and Maryland shipments are selling at 25 to 40 cents per bushel hamper. Eggplants are in heavier supply but the markets are absorbing the receipts promptly at 90 cents to $1 per Jersey basket. Cabbage is in abundant supply and is meeting with very poor demand. Barrel stock is selling at 40 to 50 cents and Jersey baskets at 10 to 15 cents. The onion movement is weak and draggy with Texas crates selling at 80 to 90 cents and Eastern Shore bushel hampers at 50 to 65 cents. Local grown onions such as were selling last season at $1 per basket are now moving slowly at 50 to 60 cents.

Increased supplies of tomatoes have lowered the market until fancy Jerseys are now selling at 45 to 60 cents per basket and culls at 15 to 30 cents. A few fancy Stone tomatoes are selling as high at 75 cents per basket. The heaviest supply of lettuce has been marketed and with the more limited quantities offered better prices are secured. Fancy Pennsylvania lettuce is selling at $1 to $1.25 per box, but much of the poorer quality is selling around 50 to 75 cents per box. Hampers of Jersey lettuce sell at a range of 50 to 85 cents, according to the quality. Bunch carrots are selling slowly at $1.50 to $2 per hundred bunches and bunch beets at $1 to $2 per hundred bunches.

Fruits

There is a wide variety of early apples arriving from Jersey and the demand for fancy hand picked stock is strong. Prices on the average compare very favorably with last season and several of the popular varieties are bringing much better prices this year. Williams Early Red are in rather light supply and the sales will run from 90 cents to $1.25 for the best grades. Haglow, Orange Pippin, Yellow Transparent and Wealthy are selling at 75 to 90 cents per basket. Second grades of these varieties will sell from 35 to 60 cents according to their general quality. Bushel hampers of fancy hand-picked apples from Delaware and New Jersey are selling at $1.50 to $2.

Georgia Elberta peaches continue to arrive altho in much more limited quantities. Sales on Elbertas of fancy quality average $2.75 to $3.25 per six carrier crate and the choice grades are selling at $2.25 to $2.50 per crate. Fancy Belles are selling at $2 to $3 according to quality. Jersey Carmens are arriving in light supply and are selling at $1.25 to $1.50 per crate. Greensboros from Jersey, packed in half-bushel baskets, are selling at 50 to 65 cents.

The supply of Jersey canteloupes is liberal and the market is strong on desirable stock. Fancy canteloupes are selling at 75 cents to $1 per ⅝-bushel basket and cull lopes are selling around 50 to 60 cents. California shipments continue to arrive and when in good condition generally receive the preference over local shipments. Standard crates of California lopes are selling at $2.50 to $3, and pony crates at $2.25 to $2.75. Flat crates of Arizona canteloupes are selling at 90 cents to $1.25 per crate. Standard crates of Maryland lopes sold at $1.50 to $2 per crate. Watermelons are in lighter supply and the market continues firm at the range of $150 to $250 per car. Some shipments arriving late and showing waste sold at $100 to $110 per car.

York State currants are in fair demand at 5 to 8 cents per quart; raspberries 4 to 7 cents per pint; blackberries 9 to 12 cents per quart; huckleberries 10 to 14 cents per quart. Sour cherries are in heavy supply and 8-pound baskets are selling at 40 to 60 cents and sweet cherries at 50 to 75 cents.

Poultry

There is a fairly active market for good quality heavy live fowl and under present limited receipts the market is well under control. Fowl are selling at 21 to 23 cents per pound, roosters at 16 to 17 cents and young spring chickens weighing 1½ to 2 pounds apiece at 25 to 27 cents. White Leghorns are in fair request at 20 to 23 cents per pound; ducks at 17 to 19 cents.

Dressed fowl are meeting with firm demand and the market is fairly active, on fancy stock. Fancy fowl weighing 4½ pounds and over are selling at 24½ cents per pound, weighing 4 pounds at 23 to 24 cents and lighter sizes at 21 to 22 cents. Old roosters, dry picked sold at 17 to 17½ cents. Broilers weighing 1½ to 2 pounds apiece from nearby sold at 35 to 40 cents per pound; from Virginia at 28 to 30 cents. Spring ducks are in good demand at 20 to 21 cents per pound.

Eggs

Fine fresh eggs are scarce and the market stronger on nearby stock. Hot weather is showing its effect on the stock arriving. Nearby firsts are selling at 37 cents per dozen, current receipts at 36 cents and seconds at 32½ cents. Southern shipments are moving out slowly at 34 to 35 cents.

—Selmarad.

LANCASTER PRODUCE

Lancaster, Pa., August 6, 1917.

Despite a near-glut of potatoes at today's market, farmers failed to reduce prices which prevailed last week. Because of the large amount of produce, door to door peddling has been resorted to by many of the farmers. Corn was plentiful and met a ready demand at from 18 to 30 cents a dozen. Tomatoes were plentiful but last week's high prices ruled. Butter was extremely scarce and sold for 45 cents a pound. Eggs were plentiful.

Butter and Eggs.—Butter, creamery, 48c lb.; do., country, 45c; eggs, fresh, 36@37c per dozen.

Live and Dressed Poultry. — Chickens, dressed, old, $1@1.25; do., dressed, young, 75c@$1; do., live, $1.50@2 per pair; do., old, 18c per lb.

Vegetables and Fruits.—Corn, 18@30c per doz.; new beans, 10@12c hf. pk.; lima beans, 12@15c pt.; squash, 4@5c each; beets, 5c bunch; cauliflower, 15@20c hd.; eggplant, 10@12c; cabbage, 3@10c sweet potatoes, 30c hf. pk.; potatoes, $1@1.[illegible]0 per bu.; 15@20c hf. pk.; turnips, new, 5@10c hf. pk.; spinach, 5c hf. pk.; tomatoes, 10c box; pears, 15c hf. pk.; huckleberries, 1[illegible]c; blackberries, 10@12c; cantaloupes, 3@6c each; apples, 10@15c hf. pk.

County Butchering.—Bacon, sliced, 40c lb.; do., whole, 30c; dried beef, 12c ¼-lb.; ham, sliced, 32c; do., whole, 28c; calves liver, 30c; beef liver, 16c; fresh sausage, 24c; veal, boiling, 18@20c; do., steak, 32@35c; do., rib roast, 32c; beef, chuck roast, 22@24c; do., round steak, 25c; do., sirloin, 28@30c; porterhouse, 30c; lamb chops, 25c; do. leg, 20c; shoulder, 30@35c; pork roast, 30c.

Grain Market.—Milling wheat, $2.10 per bu.; new wheat, $2.20; corn, $2.20; rye, $1.85; timothy hay, $18@19 per ton; mixed hay, $16@18; wheat straw, $11@12.

YORK PRODUCE MARKET

York, Pa., August 6, 1917.

All the markets were well attended but owing to the extremely hot weather the buying was slow. There was a good display of all seasonable produce. Potatoes and cabbage plentiful and lower in price. Corn was also in larger quantities. The first liberal supply of tomatoes for the season was offered and a glut followed. They could hardly be sold for 50 cents a bushel for the best. A low grade of fallen apples was plentiful but good eating apples were not plentiful.

Eggs.—32@36c per doz.

Butter.—Country, 38@42c lb; separator, 40@45c lb. Milk, 8c qt.

Poultry.—Hens, 18@20c lb; springers, 20@24c lb. Dressed, 75c@$1.50.

Vegetables.—Potatoes, 10@18c ½-pk. Cabbage, 1@4c hd. Lettuce, 3@6c head. Beets, 3c bch. Radishes, 4c bch. Onions, 5c bch; 10c ¼-pk. Lima beans, new, 20c qt. Soup beans, 35c qt. Celery, 4@7c stalk. Tomatoes, 3@10c bx; 40@60c bu. Peas, 20c ½-pk. Beans, 10@12c ½-pk. Rhubarb, 5c bch. Turnips, 12@15c ½-pk. Muskmelons, 3@6c each. Watermelons, 25@40c each. Corn, 20@30c a doz. Cucumbers, 8@12c doz; 50@70c per 100.

Fruit.—Apples, 5@24c ½-pk; 8c a box. Blackberries, 8@12c bx. Peaches, 15@30c ½-pk. Plums, 10@12c bx. Pears, 8@10c ½-pk. Eggplants, 3@8c each.

Retail Grain Market.—Wheat, $2.25; corn, $2.40; oats, $1.10; rye, $1.75; bran, $2.30 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $2.10; corn, $2.10; oats, 92c; rye, $1.65; bran, $41 ton; middlings, $56 ton.

NEW YORK PRODUCE

New York City, August 6, 1917.

Owing to hot weather, much butter is arriving in bad condition. Prices on best grades slightly higher. Little change in cheese prices. Eggs higher. Fancy apples selling well. Potato market in poor shape, receipts heavy and prices irregular. Offerings of most vegetables very liberal, and trade slow.

Butter.—Creamery, extras, (92 score), per pound, 40c; higher score, 40½@41c; thirds to firsts, 36¼@40c; state dairy, 36@40c; ladles, 33@36c.

Cheese. — Fresh colored specials, 22@22¾c; white, 22½c; undergrades, 8@17c.

Eggs. — Fresh gathered extras, 40@41c; extra firsts, 37@39c; nearby white, fine to fancy, 49@50c; ordinary to good, 42@48c; browns, 42@45c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 35@36c lb; old roosters, 17@18c; squabs, $1@3.75 per doz. Spring ducks, per lb., 20@22c; turkeys, fresh killed, 22c.

Vegetables and Greens.—Beans, per basket 25@75c. Beets, per bbl., $1.25@1.75. Onions, per crate, 50c@$1. Potatoes, Jersey, $1.50@3 per bbl.; Carrots, $1.75@2.25 per bbl.; lettuce, 40c@$1.25 basket. Corn, per 100, $1@1.75; cucumbers, 25@50c basket; peppers, per bbl., $1@$1.50; tomatoes, Jersey, 50c@$1 per box.

Country Dressed Veals.—Choice, 20@21c; prime, 19@20c; fair to good, 18@19c; coarse, heavy, 15@16c; buttermilks, 12@14c.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., August 6, 1917.

Receipts for week ending Saturday evening August 4, 1917:

	Beef Cattle	Sheep and Lambs	Hogs
Total for week	3,082	5,905	6,096
Previous week	3,217	7,470	6,898

Calves.—Total for the week, 2,119; previous week, 3,115.

Beef Cattle.—The extremely hot weather of the past week had a very bad effect upon the market and holders found it difficult to move out supplies at satisfactory prices.

Steers.—Extras, higher; good to choice, $12@12.50; fair to good, $10.75@11.75; milk cows, $75@120; bulls, $7@9; cows, fat, per lb., 7½@8½c; fair, per lb., 5½@6½c; ordinary, per lb., 4¾@6c; bolognas, 2¼@4¾c; calves, exceptional lots, $14.50@15; good to choice, $12@13.50; medium, $10@11.50; common, $7@8; Tennessee and southern, $8@11.

Sheep and Lambs.—The market for sheep ruled steady under moderate offerings and a fair demand. Lambs, however, sold slowly, the torrid weather of the last week having a very depressing effect on the market and prices were generally reduced.

Sheep. — Wethers, extra, $10@10.50; choice, $9.50@10; good, $8.50@9; medium, $6.50@7.50; common, $3@5. Ewes, heavy, fat, $8@8.50. Lambs.—Extras, $14@14.50; fair to good, $12@13; common, $9.50@11.50.

Hogs.—There was a fair inquiry for desirable stock and the market ruled steady under moderate offerings.

Best western, $15.75@16; lights, $14.50@15; roughs, $13@14.

City Dressed Stock.—There was very little activity in this market and prices were barely steady.

Steers, 16½@19c; heifers, 14@17c; cows, 12@17c; calves, 20@21c; southerns and barnyards, 13@16c; country dressed, 18c; extras, 19c; sheep, 21c; extras, 22c; lambs 24c; extras, 25c; hogs, 22c.

LANCASTER LIVE STOCK

Lancaster, Pa., August 6, 1917.

(Reported by McClain Commission Co.)

The receipts of cattle for today's market were 102 cars as compared with 118 cars last Monday and 115 cars the corresponding Monday a year ago. Today's supply came from Virginia, 33 cars; Chicago, 26 cars; St. Pau. 9 cars; Indianapolis, 5 cars; Pittsburgh, 4 cars; Pennsylvania, 6 cars; Buffalo, 11 cars; Detroit, 3 cars; Ohio, 3 cars; N. Y. State, 2 cars.

The supply of butcher cattle that had any real kill to them, was very limited. The best on sale were a load of Virginia steers that had quality, flesh and considerable fat that weighed 1,000 lbs., and sold at 11 cents. Another car of Virginia's weighing 1,075 pounds, but not as good in quality, or as well-fleshed, sold at $10.50. Another car of Virginia steers of about the same grade, weighed 1,050, and sold at $10.40. One carload of handy killers, that came from Chicago weighed 1,050, and sold at 11 cents. Another carload from the same place, but not quite as useful, weighed 1,080, and sold at $10.75. One car of good spayed Virginia heifers sold at 10 cents per lb., and averaged 875 lbs. Another car of Virginia heifers that looked as if they would make good meat, weighed 850 and sold at $8.50. Another car of handy spayed, Virginia heifers, weighed 890 and sold at $8.85.

The bulk of trading in butcher stuff was in a grassy kind of steers, weighing 850 to 1,000 pounds, with prices ranging from $8.75 to $9.75, and in a common to fair class of heifers, weighing 600 to 750 lbs., with prices ranging all the way from $6.50 to $8. Salesmen called good kinds of heifers and butcher steers 15 to 25 cents higher, and the common kind 15 to 25 cents lower. A plain to fair grade of fat cows weighing 850 to 950 pounds, that came from Virginia were very plentiful and sold 50 cents lower than a week ago; prices ranging from $5.50 to $6.50. This class of killer stuff is practically $2 per cwt. lower than they were four weeks ago. The same is true of old "shelly" oxen.

The supply of stockers and feeders is decidedly the largest of the season and tho a good many buyers were in attendance for this class of cattle, the number was not large enough to clean up the crop. Among the sales was one fine car of Canadian stockers, that averaged 810 lbs., and sold at $8.90. Another car of good Durhams that came from the West weighed 870 lbs., and sold at $8.75. Several sales of a handy kind of feeders weighing 800 lbs., were made at $8 to $8.40. The bulk of the trading, however, in stocker stuff was in a fair grade weighing 650 to 750 lbs., with prices ranging from $7 to $7.75. The best demand seemed to be for a light weight kind of the common to fair variety. One car that showed a little breeding weighed 600 lbs., and sold at $7.40. Quite a number of cars of a plain kind, weighing 460 to 550 lbs., sold at $6.65 to $8.90. Stock bulls were scarce and sold a shade stronger; best selling at $8.50. Fair kind, $8 to $8.25. Common grade, $7.25 to $7.50.

There will be quite a few fresh arrivals for Wednesday's market and these, together with those left over today, will constitute a fair supply and furnish good picking for those who attend the mid-week season.

PITTSBURGH LIVE STOCK

Pittsburgh, Pa., August 6, 1917.

Cattle.—The supply on sale was 140 loads compared with 150 loads the Monday before. The market ruled slow and generally 15 to 25 cents per cwt. lower on all grades except the best weighty grades, which were about steady. Some cattle on the plain order and showing very fat sold at even more of a decline. Heifers in fair supply, choice sold about steady while the light and medium grades sold at about the same decline as steers. Cows in liberal supply. Choice sold about steady while the common and medium grades were very slow at 25 to 40 cents decline. Bulls in liberal supply and sold very slow, generally 50 cents per cwt. lower. With 110 loads on sale today the market was fairly active and steady to strong on good fat desirable grades; others steady.

Good to choice	$12.25@12.60
Good, 1300-1400 lb.	11.65@12.15
Medium to good, 1200-1300 lb.	11.25@11.60
Tidy, 1,050-1150 lb.	11.00@11.60
Fair to medium, 1000-1100 lb.	9.50@10.25
Fair, 900-1000 lb.	8.75@9.10
Common, 700-900 lb.	7.00@8.25
Rough, half-fat, 1000-1300 lb.	9.00@10.50
Common to good fat oxen	7.50@9.00
Common to good fat bulls	7.00@9.00
Common to good fat cows	6.25@9.00
Heifers, 700-1100 lb.	7.00@10.00
Bologna cows	5.25@6.00
Fresh cows and springers	$25@90

Calves.—Veal calves in fair supply and market closed slow at steady prices. Today's calf receipts 1,000.

Veal calves	$10.00@14.75
Heavy and thin calves	5.00@8.50

Hogs.—The supply on sale during the week has been fair and with a fair demand the market has ruled active at steady prices all week. There were 15 double-deck loads of hogs offered today, and the market ranged 25 cents higher.

Prime heavies	$16.65@
Heavy mixed	16.75@
Prime medium weights	16.75@
Best heavy Yorkers	16.75@
Light Yorkers	16.00@
Good pigs	15.00@15.25
Common to good roughs	13.60@14.25
Stags	12.50@13.00

Sheep and Lambs.—The supply of sheep and lambs has been light, and with only a fair demand the market has ruled slow with prices steady on best sheep, while choice lambs closed 25 cents per cwt. below Monday's prices. Today's offerings comprised 15 double-deck loads. The demand was only fair but market was steady on sheep and slow and lower on lambs.

Prime wethers (95 to 100 lb.)	$10.25@10.50
Good mixed	9.25@10.00
Fair mixed ewes and wethers	8.00@9.00
Culls and common	4.00@6.00
Culls to choice yearlings	8.00@12.00
Spring lambs	10.00@14.50

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., August 6, 1917.

Baled Hay and Straw.—Offerings of desirable stock were moderate and values were steadily held, but there was little trading.

Timothy hay, No. 1, large bales, $21; No. 1, small bales, $21; No. 2, $18@19; No. 3, $15.50@16.50; sample, $11@13. Clover-mixed hay—Light, mixed, $17.50@18.50; No. 1, do., $16.50@17.50; No. 2, do., $14.50@15.50. Straw—No. 1 straight rye, $13@13.50; No. 2, do., $12@12.50; No. 1 tangled rye, $12@12.50; No. 2, do., $11@11.50; No. 1 wheat straw, $11.50@12; No. 2, do., $10.50@11; No. 1 oat straw, $11.50@12; No. 2, do., $10@10.50.

Soft winter bran, in 100-lb. sacks, per ton, $43.50; spring bran, in 100-lb. sacks, per ton, $41@42.

PHILADELPHIA DAIRY MARKET

Philadelphia., Pa., August 6, 1917.

Butter.—The usual Saturday quietude prevailed in this market, but offerings were light and values were firmly maintained. Fancy solid-packed creamery brought the top rate without difficulty. There were few seconds offering, the quality of arrivals being generally good. Fancy prints were scarce and brought outside rates, but there was considerable unattractive stock around, which was little wanted and irregular in value.

Western, fresh, solid-packed, creamery, fancy specials, 43c; extra, 41@42c; extra firsts, 40c; firsts, 39c; seconds, 38c; firsts, fancy, 43@44c; average extras, 42@43c; firsts, 41@42c; seconds, 39@40c; special fancy brands of prints jobbing at 48@51c.

Cheese.—Demand was light but values were steadily held under moderate offerings.

New York, full cream, fancy, new, 22½c; specials higher; do., choice, new, 21¾@22c; do., fair to good, new, 21@21½c.

NEW YORK MILK MARKET

New York City, August 6, 1917.

The demand last week far outstrippel the supply, owing to the extreme weather conditions. Anyone who had any surplus could dispose of it to good advantage. There was no loss to be credited to sour milk. That there was no sour milk is to be credited to the requirement that all milk be pasteurized, or brought into the city in such a condition that there could be no question of its quality. The League rates for Grade B (barn score 55) to the producer in the 26-cent zone are as follows: $2.55 a hundred for 3 percent milk; $2.76, or 5.86 cents a quart, for 3.6 percent milk; and $2.90 for 4 percent milk.

The receipts of milk and cream in 40-quart cans for the week ending August 4 were as follows:

Railroad	Milk	Cream
Erie	41,894	3,376
Susquehanna	5,025	40
West Shore	13,794	1,994
Lackawanna	69,210	4,070
N. Y. Central (long haul) including Rutland	147,996	4,782
N. Y. Central (short haul)	24,290	55
Ontario	43,941	5,185
Lehigh Valley	50,532	1,937
Homer Ramsdell Line	3,27[illegible]	170
New Haven	2,88[illegible]	33
Pennsylvania	16,29[illegible]	675
Other sources	1,4[illegible]	58
Totals	420,572	22,375
Same week last year	384,932	19,142

TOBACCO MARKET

A most important and interesting feature of the week was the sale of many growing crops in the Wisconsin section. The highest were at $20 and 6, with none lower than $14 and 5 per cwt. The average was about $18 and 5; a very encouraging price to the growers of that locality who, it is said, are much pleased with the outlook. The section was fairly overrun with buyers. So many things can happen before tobacco is ready for delivery and in the event of some mishap buyers would so surely find a way out that the advisability of such early contracts is doubtful to say the least. So far as reported, no contracts have been made in Pennsylvania, buyers having given up the attempt since their failure some weeks ago. There is no reason to expect a less demand here than elsewhere and it should be the part of all to not be in haste in contracting a crop which will be in demand at all times and at remunerative prices. It is well to recall the disastrous result of early sales in past years and accordingly to be on guard at all times. The growing crop has been doing well but at present is hindered by a sharp drouth. Tobacco manufacturers and their dealers are very appropriately engaged in a campaign intended to educate the consumer to higher prices which, of course, are a necessity under present conditions. The prices of cigars, etc., have been so long established that they are hard to change without explanation and it is for this reason that as wide publicity as possible is being accorded the movement. Already the "six for a quarter" custom has been abandoned and it is thought the many 5-cent goods will have to be abandoned.—H. E. Tweed, Aug. 6.

CIDER Making Pays
With Mt. Gilead Hydraulic Cider Presses
Thousands are making Big Money with our presses—why not you? Sizes 10 to 400 bbls. daily; hand or power. Cider evaporators, apple-butter cookers, vinegar generators, filters, etc. Fully guaranteed. All power presses have steel beams and sills. Catalog Free.
HYDRAULIC PRESS MFG. CO. 245 Lincoln Ave., Mount Gilead, O. Or Room 119 F 39 Cortlandt St., New York, N. Y.

MARSHALL RAT PROOF CORN CRIBS
are built of galvanized iron. Cost no more than wooden cribs, easy to erect and last a lifetime. Perforated sides and ventilating shaft insure well cured corn. Three styles and many sizes to fit any farm.
FREE Illustrated Catalog folder fully describes construction. Write for it today. A post card will do.
Iron Crib & Bin Co., Box 111 Wooster, O.

Dairy Cattle

SPOT FARM
Spot Farm Holsteins
$15 to $20
For high grade calves either sex express paid in lots of 5. 40 large high grade and 12 registered Holstein cows due in Aug. and Sept. 35 registered heifers 1 to 2 years old. 40 high grade heifers, and registered bulls.
JOHN C. REAGAN, Tully, N. Y.

Auray Farms
Are offering exceptional bargains in young Purebred Holstein Bull Calves—$100 up. Crated—Delivered—Guaranteed! Bred from a Full List of A. R. O. dams, and sired by our King Lyons Fayne, whose dam is a sister of the World's Record 50 lb. Cow. Largely white and splendid individuals.
Write for charts and particulars to
Irving M. Avery, Mgr., Sparta, N. J.

Polled or Naturally Hornless
Registered Holstein-Friesian bull calf, born May 27, 1917. More white than black. Sire is from our world's 4 per cent yearly record family, whose dam and granddam made more than 1000 lb. butter in a year. First check for $100 claims him.
Geo. E. Stevenson & Sons. Clarks Summit, Penna.

For Sale---Ayrshire Bull
Ben Ayr of Ayrdale, No. 16674
To avoid inbreeding.
W. R. TUCKER, CAMBRIDGE SPRINGS, PA.

Holstein Bull Calf Sired by a son of King Segis Pontiac Alcartra, the $50,000 Bull and from a granddaughter of De Kol 2nd Butterboy 3rd; nicely marked. Price $30 or exchange on O. I. C. gilt.
C. E. CASSEL, HERSHEY, PENNA.

High Grade Holstein Calves
Either sex, beautifully marked, $20 each. Reg. Holstein cows, heifer and bull calves, shipped anywhere.
F. H. WOOD, BOX A, CORTLAND, N. Y.

Holstein Sale Sept. 20
of registered stock. Write for catalog.
BOB SEEDS, BIRMINGHAM, PA.

Holsteins Herd of 35 cows, 15 heifers, 5 bulls to choose from. Half grade and half registered. All have a 3-year cow testing association record for milk production. Some with A. R. O. records.
Plumlyn Farm, Fairview Village, Pa. (near Norristown)

Reg. Holstein bull calf, born March 31st, 1917. Dam, a fine cow, has just made 17 lb. 3 year old record. Sire is son of 23 lb. cow; price right. Inquire of J. B. Winkelbleeh, Lewisburg, Pa.

Guernsey Bull Calves from 4 to 10 mo. old, sired by a son of Segalore 10101 whose sire was Imp. Mashers Galore 5372. C. A. WRIGHT & SON, CANTON, PA.

Belle Alto Guernseys Registered Promising young bulls for sale, 1 to 6 mos. at very reasonable prices. M. H. Mc Callum, Mgr. Belle Alto Farm, Wernersville, Pa.

Reg. Holsteins Pair of young cows. One has creditable A. R. O. record. Both are big cows and good producers. Bred and priced right.
WILLIAM S. KER R. D. 9, CARLISLE, PA.

Holstein Calves 5 Registered heifers and 7 bulls, from a 30-lb. sire. Write for prices and pedigrees.
WALTER M. CRUTTENDEN, Wilkes-Barre, Pa.

Jersey Calves Both sexes Fine stock of the most noted pedigrees in the world. FRED G. W. RUNK, ALLENTOWN, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Reg. Jerseys Cows, heifers & calves, priced right. CHARLES G. FOSTER, P. O. Box 173, Morristown, Morris Co., N. J.

Registered Holstein bull calves from a ton show bull and heavy milking dams. Best breeding. Write I. V. OTTO, CARLISLE, PENNA.

AYRSHIRE BULL CALVES Advance Registry ancestry. Priced to sell. They will improve your herd. ROBERT TEMPLETON & SON, ULSTER, PA

Guernseys & Cheshires The quality cow and the quality pig. Let us know your future needs. Fred W. Card & Son, Sylvania, Pa.

Swine

Reg. O. I. C. "Ferndale Stock Farm" Salem, Ind. Big type. Prices reasonable. Prize blood. M. U. JOHNSON, ASHTABULA OHIO.

Reg. O. I. C. Boar, weight 350; a good sire of large litters. Also May farrowed pigs. L. F. NICHOLAS, Mt. Bethel, Pa.

Berkshires high class pigs for sale. July, Aug & Sept. Masterpiece blood cheap. W. J. Mc CONNELL OXFORD, PA

COUNTY NOTES

Cumberland Co., N. J., (S.) July 26.—Weather is close and muggy, with a great many thunder storms. Many farmers are now planting second crop potatoes for seed next year. The early potato digging will start next week. The crop is not so good as was expected earlier. Late tomatoes as well as second early tomatoes have been damaged by the continual wet weather. Many farmers will not contract now because they expect the light crop to make prices on the market high.—Everett H. Sheppard.

Adams Co., O., (S.C.) July 27. — Weather hot with excessive moisture. Heavy showers most every day. Very difficult to get wheat threshed, ricked or put in barn. Much hay has been injured and some lost because of so much wet. Corn is making a splendid growth. Weeds are very heavy in corn fields and many fields need the use of the hoe. Oats a good crop but some falliing because of wind and wet.—W. E. Roberts.

Lebanon Co., Pa., (S.E.) July 27. — Weather is warm, with showers almost every day. We had a 5-inch rainfall this week and, as a result, much partly cured hay was spoiled. Many farmers are still making hay, tho the majority have finished. Some have started in the wheat harvest. The hay crop was not as good as it should have been. Corn, however, is growing fast and looks fine. Bugs and blight have done some damage to potatoes and the crop will be below average. Oats are growing nicely and promise a fair crop. Our new county agent, Mr. A. C. Berger, held several well-attended farmers' meetings in various parts of the county. Wheat is $2.30; corn, $1.80; oats, 85c bu; potatoes are $1.50 bu.; bran, $39 ton; milk, $2.30; eggs, 34c dozen. The country picnic is the order of the day now. Every Saturday during July and August one or several are held.—Leonard F. Strickler.

Crawford Co., Pa., (N.W.) July 15.—Weather cold and wet. Rain and hail the 14th. Stock looking well. Eggs, 35c; butter, 38c; veal, 12½c; hogs, 13c; strawberries, 10c. Corn small and weedy; too much rain. Potatoes growing. Too wet to get buckwheat sowed. Very little hay cut; that which has been cut is spoiled by rains. Wheat green yet; some good prices. Roads muddy.—J. F. Seavy.

Lancaster Co., Pa., (S.E.) July 14.—Raining at present. Has been very wet. Have had rain almost every day for two weeks. Live stock is in good condition. Cows are doing well on pasture. There is a good demand for sows and good ones sell as high as $150 While the season has been late crops are looking fine. Corn, oats and potatoes are growing and promise heavy crops. Tobacco is nearly all started and some very nice patches are seen. The hay crop will be short owing to the wet weather. Bulk of the crop is still standing. Wheat is a good crop but not much harvested yet. Farm work is very much back owing to weather conditions. Help is very much back owing to weather conditions. Help is very scarce in spite of good wages. Wheat is worth $2.10; corn, $1.83; hay, $18; straw, $11.—J. Henry Haverstick.

Sussex Co., Del., (C.) July 18. — Sugar corn has made its appearance and is commanding the highest prices known in recent years, ranging from 30 to [illegible]5 cents per dozen ears. The yield has been depreciated by recent wet weather. The acreage is slightly above the average. It is estimated that the white potato acreage in Sussex County has at least been doubled this season. Peaches are now commanding from 60 cents to $1 a five eighths bushel basket in local markets. The season is about done and the crop has not measured up to expectations. Blackberries are now coming in large quantities and bringing $2 to $3 a 32-quart crate. The crop is good but the acreage slightly below the average. Huckleberries are plentiful and of good quality. They now bring from $3.50 to $4 a crate. High bush berries sell for the best prices as they are larger and better flavored. Apples are also in market and are commanding 75 cents to $1 a bushel hamper.

Much damage has been done to the wheat crop within the past three weeks by excessive rain. The showers were so frequent that farmers were unable to thresh wheat. Long sprouts are now on much of the wheat and it is estimated that about one-eighth of the crop in the county will be a total loss.—A. C. Cutten.

AGRICULTURAL SHORT COURSES

The Pennsylvania State College is advertising short courses in agriculture. Three courses are open: Full four-year course, two-year course, and the short course. The short course this year will open November 15th. It will be divided into two periods, the first period running from November 15 to December 29; the second period from January 1 to February 20. For catalog and full information write Community Service Office, State College, Pa.

AGRICULTURAL SEEDS CIRCULAR

The State Seed Analyst of New Jersey has prepared Regulations and Instructions relating to the Labeling, Inspection and Analysis of Seeds in New Jersey, as provided by the State Seed Law, effective November 1, 1916. (Full text of the law given in Circular 59, available on request.) A copy of these should be in the hands of every person, firm or corporation selling seeds within New Jersey or selling seeds into the state to be retailed by local dealers. These are published as Circular 66 of the New Jersey Experiment Stations and can be obtained by request from John P. Helyar, State Seed Analyst, Experiment Station, New Brunswick, N. J.

CECIL COUNTY FARMERS' DAY

The annual Cecil County Farmers' Day will be held at Tome Institute, Port Deposit, Md., August 18. Among the speakers of the day will be Hon. Gifford Pinchot, of Penna.; A. P. Sandles, of Ohio; Henrietta Calvin, specialist in home economics, U. S. Department of Agriculture; Hon. Wm. T. Creasy, secretary of National Dairy Union; Dr. Woods, president of Maryland State College of Agriculture; Dr. Clyde L. King, chairman of Governors' Tri-State Milk Commission, and others. This will be a field day for grangers of this and adjoining counties. Everybody is welcome.

A TRIAL CONVINCES

Some three months ago, a windy young rooster came to my place and insisted on my subscribing to the Pennsylvania Farmer. I repeatedly declined; he then offered me the paper three months for 10 cents; and to get rid of him, I took him up. I have since read practically every line in every issue, as a result of which I now, in the presence of witnesses, apologize to the "Windy Rooster", enclose my humble dollar and beg to be allowed to continue basking in the sunlight of your agricultural intelligence until 1919.

Very truly yours, so help me Bob,
E. A. Martin.
Tunkhannock, Pa.

FRESH FRUITS AND VEGETABLES

Farmers' Bulletin 871 tells how to use fresh fruit and vegetables as conserves of staple food. Subject matter is prepared by office of Home Economics. Copies will be mailed free on request to Division of Publications, U. S. Department of Agriculture, Washington, D. C.

AMERICAN POMOLOGICAL SOCIETY

The regular biennial meeting of the American Pomological Society will be held in Boston, Mass., Oct. 31 to Nov. 4, 1917, together with the Massachusetts Horticultural Society and the New England Fruit Show. For particulars on program, address Pres. W. N. Hutt, Raleigh, N. C. For information on entry blanks and prizes, address, Sec. E. R. Lake, 2033 Park Road, Washington, D. C.

Home Canning of Fruits and Vegetables.—This is the subject of Farmers' Bulletin 853, issued by the U. S. Department of Agriculture, Washington, D. C. The discussion covers sterilization, home equipment, canning in glass, canning in tin, time tables, jams, butters and marmalades, preserving, jelly making, etc. Bulletin is free upon request to the above Department.

Plum Growing in Maryland.—This is the subject of Bulletin No. 207 of the Maryland Experiment Station. The discussion covers distribution, varieties, blooming data, future of industry, orchard management. Copy is mailed free from the above station at College Park, Md.

Berkshires
of Size and Quality
The boar, Majestic Mammoth 229590, weight 407 lbs. at 7 months old was bred and grown by us. When you want the best and want them big, write to—
C. H. Carter, Whitguern Farm, West Chester, Pa.

HAMPSHIRES
Bred gilts for fall farrow, pigs any age, free circular. Registered Guernsey Bulls, from $35 up.
Locust Lawn Farm
Bird-In-Hand.
Box 2, Lanc. Co., Pa.

Reg. P. Chinas, Berkshires, C. Whites. Large strain, all ages, mated not akin. 8 weeks pigs, bred sows, service boars, Collie and Beagle dogs. Grade Guernsey calves and poultry.
P. F. HAMILTON, COCHRANVILLE, PA.

Big Type Registered Berkshires
$15.00 for pigs from 500 & 600-lb. Sows. Big litters. A few service boars. Write for prices, pedigrees and photos.
C. C. KEISER, Marietta, Lancaster Co., Pa.

Duroc Jerseys of size and quality for profit. Any age. Fall pigs $9 and up.
H. ED. BARCLAY, R. D. 4, SOMERSET, PA.

Berkshires large type fellows, Masterpiece-Longfellow blood lines. Also Reg. Holstein-Friesian bull calves, King Segis & De Kol 2nd, Butter Boy 3rd breeding. Jno. C. Bream, Gettysburg, Pa.

Chester Whites & Berkshires pigs 6 & 8 weeks old. 2 Chester White Boars 4 mos. Write your wants.
I. R. TANGER, YORK SPRINGS, PA.

Mulefoot Hogs oldest breeder in the state. Pedigreed stock for sale.
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LARGE BERKSHIRES AT HIGHWOOD
Service boars, bred sows, pigs all ages.
H. C. & H. B. HARPENDING, Box 45, Dundee, N. Y.

High Grade Reg. Berkshires for sale. Satisfaction guaranteed or no pay.
W. S. JOHNSON, BERWICK, PA.

CHESTER WHITES and POLAND CHINAS
All ages. Registered free. Jersey bulls.
J. A. BOAK, ROUTE 4, NEWCASTLE, PA.

Reg. O. I. C. Swine Spring pigs and bred gilts.
HIDRI VIEW FARM, Mt. BETHEL, PA.

O. I. C. & Chester White Choice brood sows; service boar.
Fred Bryan & Son. Star Route. Mansfield, Pa.

Durocs 3 choice service boars & fall boars. Gilts will be bred for Aug. & Sept. Spring pigs mated not akin. Ira. D. Jackson, R. 10, Van Wert, O.

Large Berkshire Swine Registered High Grade. Prices reasonable. Write
HOME FARM, CENTER VALLEY, PA.

O. I. C. & Chester White Spring boars & gilts reg. free; Satisfaction & safe del. guar.
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Poultry

The "Moheganite" Strain
of S. C. White Leghorns and Rhode Island Whites "3 hens in 1" from trapnested ancestry recording 180 to 250 eggs in pullet year. Prime pullets $1.40 August delivery.
Mohegan Farm, Box M, Peekskill, N. Y.

POUND CHICKS!
Orpingtons, Rocks, Reds, Leghorns, Wyandottes, Anconas, Minorcas. Pullets, $11 a dozen up; 6 Ckls., $6. Baby chicks, $10 a 100 up. Eggs, $7 a 100 up. Catalog free, stamps appreciated. Nabob Poultry Co., Gambier, O.

S. C. W. Leghorns "Tom Barron Strain." The large kind, prolific layers. Breeding stock for sale. 1 1-2 lb. cockerels from imported high record sires, $1.25 each, live or more $1 each. These cockerels will cost you $10 next season. Order from adv. IVYWOOD POULTRY FARM, Box 71 A. Avondale, Chester Co., Pa.

LOOK! 5,000 Pullets
March, April, May hatched, at right prices S. C. White Leghorns only from trapnested stock. Write for prices and free catalogue. Stamps appreciated.
NABOB HATCHERIES - - GAMBIER, OHIO

S. C. White Leghorn baby chix, pullets, hatching eggs, 250 egg strain. Long deep bodies, yellow legs & beaks & large red to p-over combs.
A. R. GRAVES, R. D. 2, REXVILLE, N. Y.

CHICKS 15c each, $13 per 100; Silver, White and Columbian Wyandottes, S. C. Red, Ducklings, Rouen, and Runner, 22c each, $20 per 100.
Aldham Poultry Farm, R. 39, Phoenixville, Pa.

The Business Farmer's Hen for eggs, meat and winter layers. Trapnested White Orpington eggs, chicks and stock. Honest values and square deal guaranteed.
STEVENS RELIABLE YARDS, Box P, Lyons, N. Y.

Cockerel Sale S. C. White Leghorns at $1.25 each. The large kind. March hatched ready for shipment now. Order from adv.
GUY C. ZENTZ, R. D. 1, FINKSBURG, MD.

S. C. White Leghorns Eggs for hatching. Send for catalog describing our mating for this season. Fertility guaranteed.
Hidri View Farm. Box 17. Mt. Bethel, Pa.

Chicks S. C. W. Leghorns 6c & up. Money refunded for dead chicks. Circular free.
W. A. LAUVER, McAllisterville Pa.

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HOUNDS—HOUNDS—HOUNDS
Fox, coon and rabbit hounds, well bred and fine lookers at the right price. Stamp for photos.
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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Uric Acid Calculi. — I have a ten-year-old mare that seems to be in good health, but occasionally passes bloody urine. Is there anything that I can give her to correct this trouble? B. M. S., Glassmere, Pa.—Give one dram hexamathylene, or one dram urotropin, or one dram uritone at a dose in feed or drinking water, two or three times a day. I suggest that you change her feed, and give her plenty of good water to drink.

Knuckling.—My seven-year-old horse is inclined to knuckle on fetlock joint, and as I need her for farm work, cannot give her rest. Is there anything that I can apply that will give her relief? B. T. G., Hanover Junction, Pa.—A majority of horses that knuckle are of faulty conformation, having short upright pasterns which predisposes them to knuckling. If it is the result of hard work, rest and applying light blisters or a liniment composed of equal parts turpentine, aqua ammonia and raw linseed oil, three times a week, will have a good effect. In many cases treatment does not give very good results; it only makes the skin sore and tender.

Indigestion. — My eleven-year-old mare is well fed, has a good appetite, but fails to lay on flesh. I have given her a tonic, but this does not help. M. C. T., McKeesport, Pa.—Her molar (grinder) teeth may perhaps need floating and if you do the work yourself, file off only the sharp points on outside of upper rows and inside of lower. Mix together one part salt, one part of ground nux vomica, one part fenugreek, one part ginger and four parts ground gentian and give her a tablespoonful at a dose in feed, three times a day.

Hole in Side of Teat.—My young heifer that freshened recently has a hole on side of teat. Is there any way that I can close this opening? M. C. G., Knousetown, Pa.—You had better employ a competent veterinarian to scarify the edges of hole. Stitch or clamp together, then they will unite. In some cases a recovery follows placing a pin thru the tissues and tying a string back of it, this sets up considerable inflammation and a union of the walls of opening may occurr. But before the opening is closed, the wall should either be scarified or burned with red hot needle or probe.

Capricious Appetite. — Have some cows that are inclined to chew boards, old sticks, bones and other rubbish. Is there anything that can be given that will break them of this habit? A. T. D., Normalville, Pa. — Change their feed and give each cow two teaspoonfuls of dilute hydrochloric acid in a quart of water as a drench or in feed or drinking water, three times a day.

Piles.—My young pig has a bunch about the size of a hickory nut protruding from the bowel. What can I do to remove this bunch? M. D. W., Mozart, Pa.—Dissolve one ounce of sugar of lead, ½ ounce sulphate of zinc, ½ ounce powdered alum and one ounce tannic acid in one quart of cold water and apply to bunch, three times a day.

Pigs Cough.—I feed my pigs middlings for slop, and corn, but they appear to be weak in hind quarters and often fall on their knees. Three of them have been coughing considerable of late. M. B. R., Thornhurst, Pa.—Discontinue feeding corn, and feed tankage, a few oats and roots. Give each pig five or ten grains of powdered nitrate of potash in their swill, two or three times a day. This is dose enough for a hog weighing from fifty to one hundred pounds.

Worms.—I have four pigs that have worms. I have given home remedies but they fail to rid them of worms. R. W. O., Luzerne, Pa.—Mix together one part powdered sulphate iron, two parts cooking soda, two parts ground gentian and two parts powdered wood charcoal and give each 100-pound hog a teaspoonful at a dose, twice a day. Are you not feeding too much corn and are you exercising your hogs enough?

For Better Shooting---

A MAN is so busy these times that when he does get a couple of days' hunting or an afternoon at the traps, he is looking for *action.*

He wants to be sure about his *gun*—and that is one great reason why everybody speaks so highly of the Remington UMC Pump Gun and Autoloading Shotgun.

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The Action of Lime on Soils Is Steady, Silent and Sure
Use WARNER'S
"LIMOID"
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Ask Your Dealer. Order Early
Shipped in tight paper bags; can be safely stored until needed.
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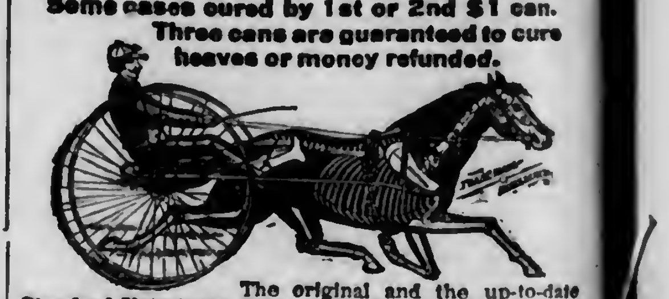
DEATH TO HEAVES
NEWTON'S Heave, Cough, Distemper and Indigestion Cure.
Some cases cured by 1st or 2nd $1 can. Three cans are guaranteed to cure heaves or money refunded.



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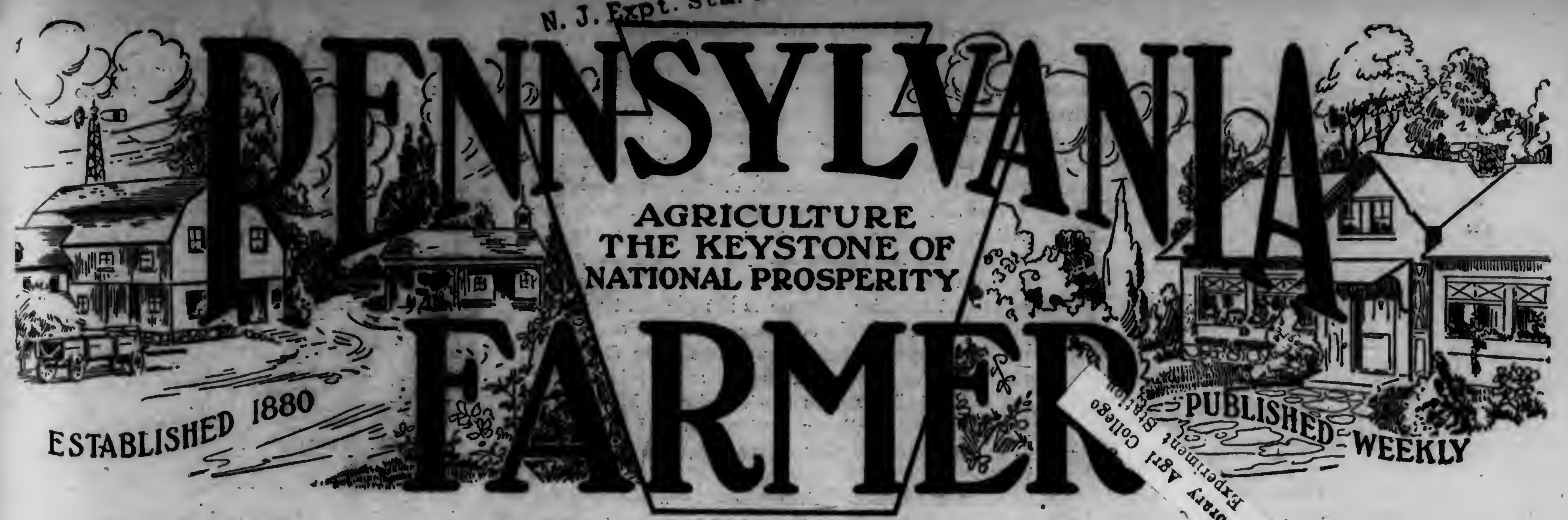
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Running Water in Every Farm Home

Systems Costing from $18.50 to $125 and Easily Adapted to Additions and Improvements

By R. W. BLASINGAME

AGRICULTURAL ENGINEER

No home is well protected unless it is provided with an adequate supply of pure water. For years it was considered that running water was a luxury to be enjoyed only by families who live in cities. However, the manufacturers have recently turned their attention to the production of private water supply equipment and to studying the farmer's water problem, thereby making it possible for him to have private water works at a reasonable cost. It is no uncommon experience at present to find many country homes of a community provided with running water; and it is hoped that this article, by showing plans for inexpensive systems, may stimulate other farmers among our readers to provide this comfort for their families.

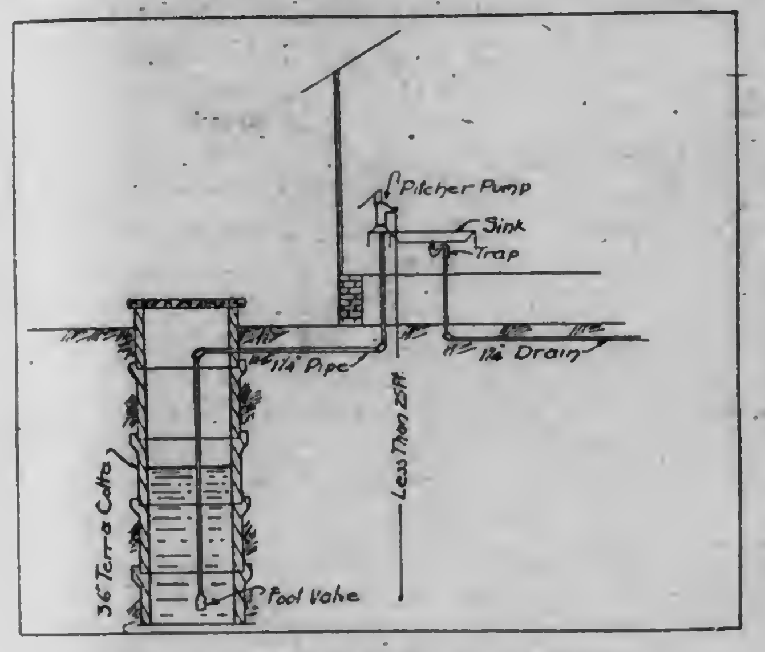

FIG 1. COLD WATER IN KITCHEN.

The Well

To secure pure water it is necessary to properly locate and construct the well. By proper location is meant that the well be placed so that no surface water may enter during heavy rains. It will be seen from the illustrations that wells should be equipped with terra cotta, rock, brick, or concrete curbs. These impervious materials prevent any contaminated water from entering the well by seepage. It is a common practice at present to bank clay around the well and place a layer of concrete over the top to prevent the entrance of dust, trash, or filth from the feet of persons using the pump.

It is often supposed that a water system is too expensive for the farm, but with a glance at the outfits contained in these few columns one may see that they range from $18.50 to $123.74 for actual cash outlay in purchase of material for a complete system. These prices are variable, of course, but are given at fair market price at present. Each system has been so designed as to allow the addition of further equipment at any time funds may become available.

Water System No. 1

This system consists of a pitcher spout pump, so placed as to deliver the water into the kitchen sink as it is drawn from a cistern or shallow well. It must be borne in mind that the pitcher pump will draw water only about 20 feet. The kitchen sink is provided with drain pipe and trap.

Cost of System No. 1.—40 feet 1½-inch galvanized iron suction pipe, $5.60; 30 feet 1½-inch galvanized iron drain pipe, $4.80; one kitchen sink and supports, $4; two 1½-inch elbows for suction pipe, 30 cents; one pitcher spout pump, $1.75; one 1½-inch cast iron trap to fit sink, $1.30; one 1½-inch foot valve and strainer combined, 60 cents; one 1½-inch elbow for drain pipe, 15 cents. Total, $18.50.

Water System No. 2

This system is different from that of No. 1, in that it requires a storage tank either in the attic of the house or in some elevated position. In case the tank is placed in the attic it will furnish sufficient water for the house. However, it is not recommended as being large enough for the entire farm. Whenever a water tank is placed in the attic of a dwelling it should be located directly over a partition in order not to cause the ceiling to sag.

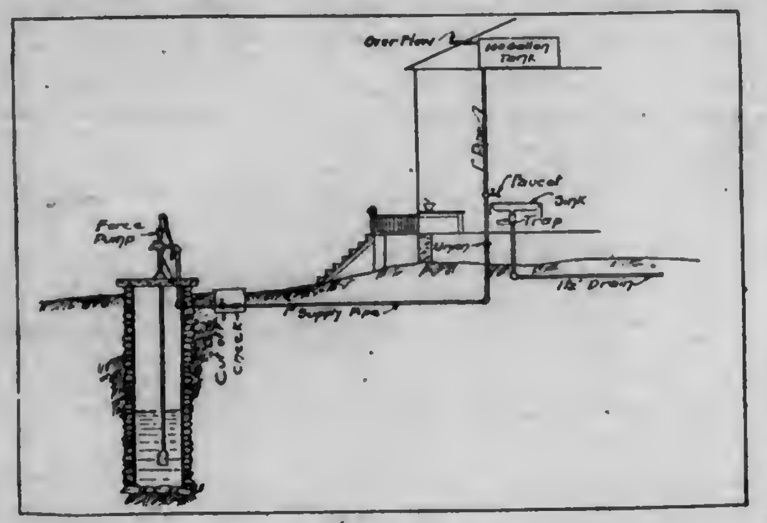

FIG. 2. FORCE PUMP AND STORAGE TANK ADDED.

Water weighs about 8⅓ pounds per gallon. Therefore, if a tank 2 feet in diameter and about 4 feet high should be located in the attic of a house and filled with water it will weigh about 850 pounds. This is a greater weight per square foot than the beams of a barn are supposed to support.

Cost of System No. 2.—One force pump complete, $16; *80 feet 1-inch galvanized iron pipe, from pump to tank, $8.80; three 1-inch galvanized iron elbows, 45 cents; one 1-inch galvanized iron union, 30 cents; one 1-inch check valve, 80 cents; one 1-inch cut-off valve, 80 cents; one 1-inch by 1-inch by half-inch faucet, 60 cents; one galvanized iron storage tank, 100 gallons capacity, $10; 4 feet 1-inch galvanized iron overflow pipe, 44 cents; one 1½-inch cast iron trap to fit kitchen sink, $1.30; 1 kitchen sink and support, $4; *40 feet 1½-inch galvanized iron drain pipe from sink, $6.40; one 1½-inch elbow for drain pipe, 15 cents. Total, $50.04.

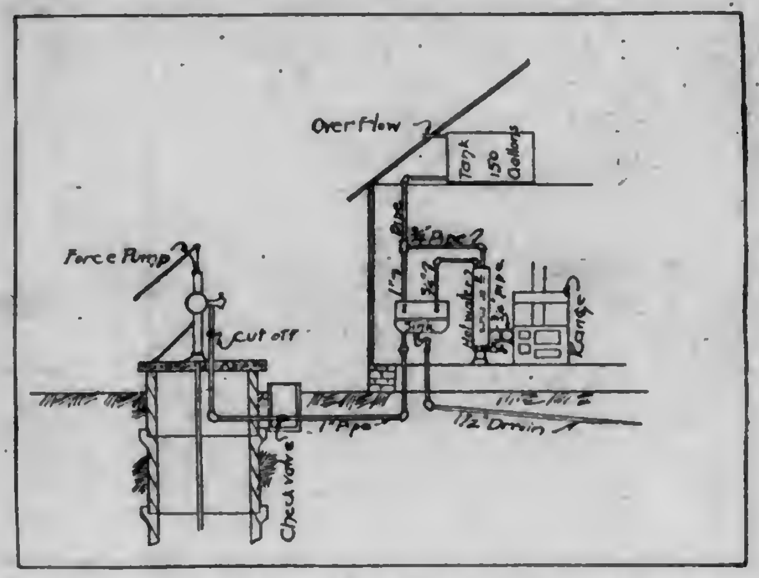

FIG. 3. HOT AND COLD WATER IN KITCHEN.

*Length of pipes vary according to conditions found in each home.

Water System No. 3

This system is the same as System No. 2 except that a "tee" is inserted on the pipe leading from the tank. From this "tee" a pipe is run to the hot water tank where it is heated by the range. This adds hot water to the kitchen equipment by the addition of the following bill of material to system No. 2 which consists of cold water only.

Cost of System No. 3.—System No. 2, $50.04; one range boiler and connections, $12.50; two ¾-inch faucets, $1.40; six ¾-inch elbows, 90 cents; 20 feet ¾-inch galvanized iron pipe (hot water), $1.60; one 1-inch by 1-inch by ¾-inch tee, 20 cents. Total, $66.44.

Water System No. 4

This system is the same as that of system No. 3 with the exception of the bath room equipment and necessary drainage system. The cost of this system is, therefore, obtained by adding the cost of system No. 3 to the necessary bath room outfit. In Pennsylvania there may be found a hill close enough to the house in which a water tank of concrete may be built. The tank built in the hillside has many advantages over the tank supported on a wood or steel tower. It is not affected by wind storms or by temperature changes and is permanent.

Cost of System No. 4.—System No. 3, $66.44; 25 feet ¾-inch galvanized iron pipe (hot water to bath), $2; two ¾-inch elbows and one ¾-inch tee (hot water), 45 cents; four 1¼-inch by ¾-inch tees (cold water), 80 cents; two, 1-inch by 1¼-inch tees

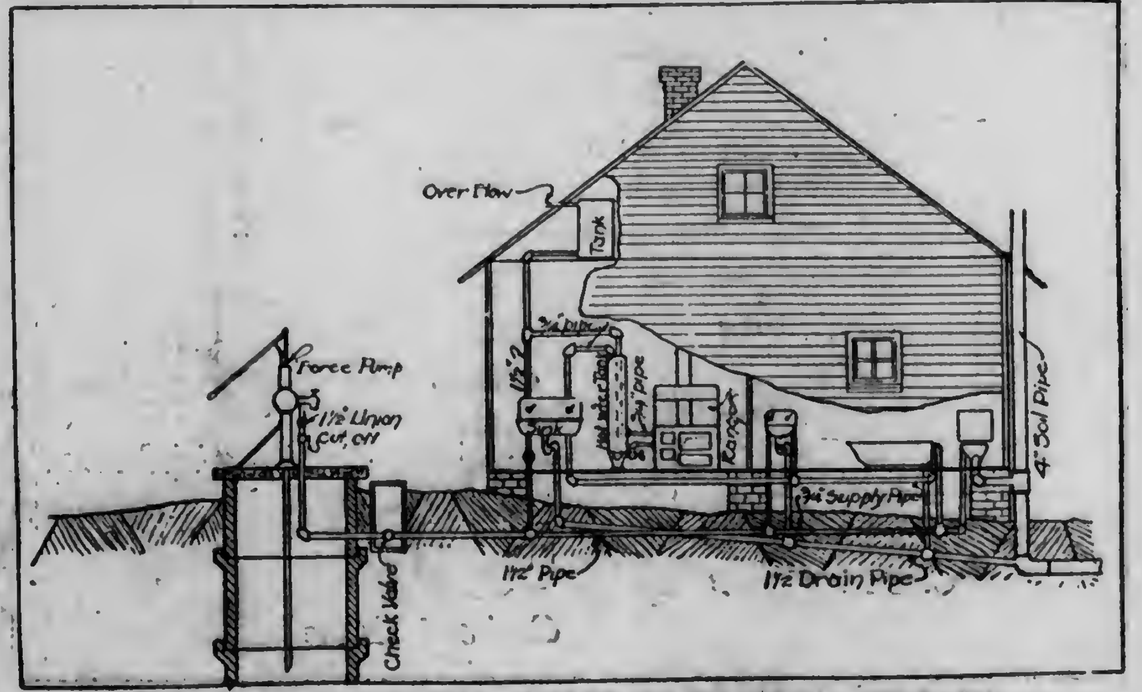

FIG. 4. HOT AND COLD WATER IN KITCHEN AND BATH.

(drain lavatory and bath tub), 30 cents; one bath tub and trap, $22; one sanitary closet and 3 pounds putty, $12; 18 feet 4-inch soil pipe and 1 quarter bend, $4.75; one lavatory complete, $10; two sanitary tee branches and 1 roof flashing, $2.50; sufficient lead and oakum for soil pipe joints, $2.50. Total, $123.74.

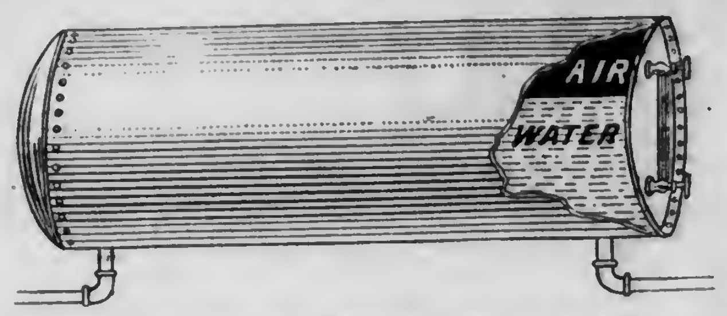

FIG. 7. PNEUMATIC WATER STORAGE TANK.

In this system the tank built in the hillside will be more expensive than the small metal tank provided in systems Number 2 and 3. A tank may be supported on a wood or steel tower as well. Such methods are in such common practice that it was not thought necessary to illustrate them.

Water System No. 5

This arrangement is merely to show how a water tank may be elevated on a masonry silo; such as concrete or hollow tile. This practice is becoming rather general in Pennsylvania and is economical in that it eliminates the expense of a tower. The cost of this system will be the same as that of No. 4, with the exception of variation in cost of the tank. The addition of a 1½- or 2-horsepower gas engine and pump jack will cost about $60. A small engine may be provided for any of these systems except No. 1.

The Hydraulic Ram

Where any one has a supply of water from a spring of two gallons or more of water per minute and a fall of more than one foot, the hydraulic ram can be used to supply water for farm purposes. According to some manufacturers, for every foot fall from spring to ram, one may expect the hydraulic ram to lift water from 6 to 20 feet high, depending upon the distance the water is to be carried. The hydraulic ram is a combination engine and pump, is inexpensive, simple to install and operate. The quantity of water flowing from a stream or spring which is to be used to operate a hydraulic ram should be measured in times of drouth rather than in times of freshet. Figure 6 illustrates the installation of a hydraulic ram which can be used in connection with any of the water systems in this article.

By using the following formula one may determine the amount of water a ram will deliver into a tank: Multiply the number of gallons furnished to ram by the drive head in feet and divide by the hight water is to be raised in feet gives the number of gallons put in the tank. Subtract one-third for friction in pipes. Example: Suppose a spring supplies 10 gallons of water per minute and the vertical fall or drive head from the spring to the ram is 5 feet. How much water will be delivered into a tank 60 feet high?

Multiply 10 by 5 and divide by 60, which gives five-sixths gallons put in tank per minute. Five-sixths multiplied by 60 gives us 50 gallons per hour, or 1200 gallons in 24 hours. Subtracting one-third for friction in pipes: 1200 minus 400, gives us 800 gallons per day. The drive pipe should be 8 or 10 times as long as the vertical fall from the spring to the ram. Example: If the fall is 5 feet, the drive pipe should be about 40 or 50 feet long. The drive pipe should be twice the size of the delivery pipe. A check valve should be placed on the delivery pipe leading from the ram to the tank in order to prevent the tank and pipe line from emptying if the ram should stop operating.

The Pneumatic System

Besides the methods already outlined for securing water under pressure in farm homes, there is the pneumatic system. This consists of an air-tight tank constructed of metal. This tank is placed in the ground, in the basement, or in the pump house. Water and air are pumped into this tank by a special combination pump, thus compressing the air which gives the motive force to lift the water. It is often thought that this system is rather complicated and that air pressure is not sufficient to raise the water. However, one may see steam engines in successful operation most anywhere these days; the pneumatic water system is the same principle as the steam boiler and is much easier to keep in repair on account of the contraction and expansion of pipes under varying temperatures in the steam boiler.

The pneumatic system generally works under a pressure of 30 to 50 pounds. One pound of pressure will hold up a column of water 1 square inch in cross section about 2.3 feet high. Therefore, 40 pounds of pressure will force water to the same hight as a tank placed something over 100 feet high.

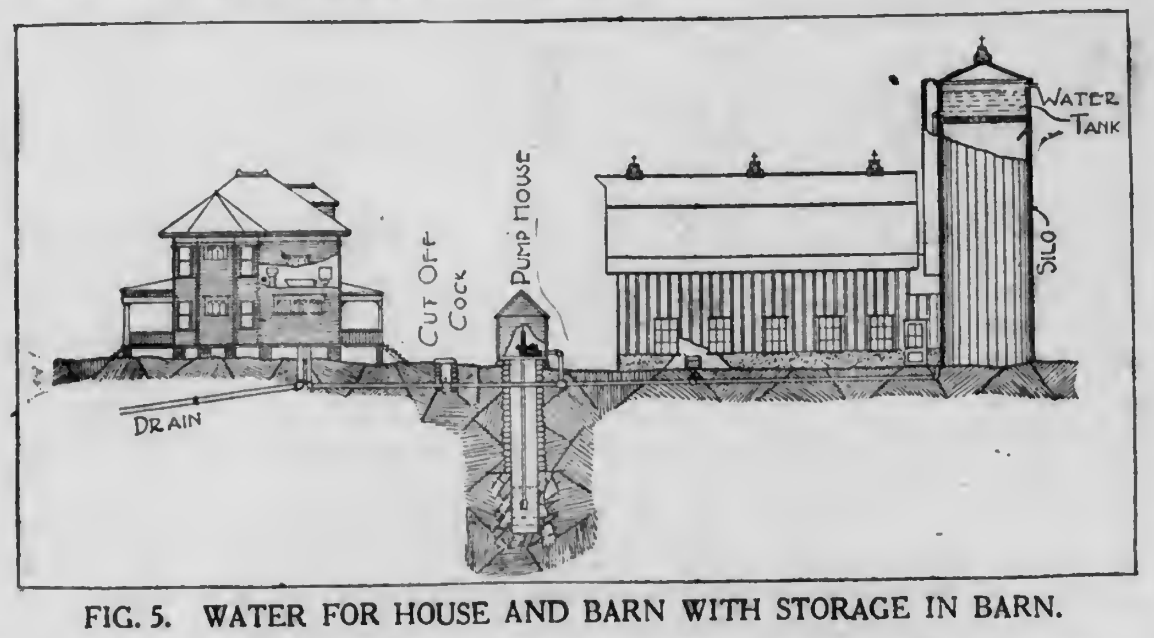

FIG. 5. WATER FOR HOUSE AND BARN WITH STORAGE IN BARN.

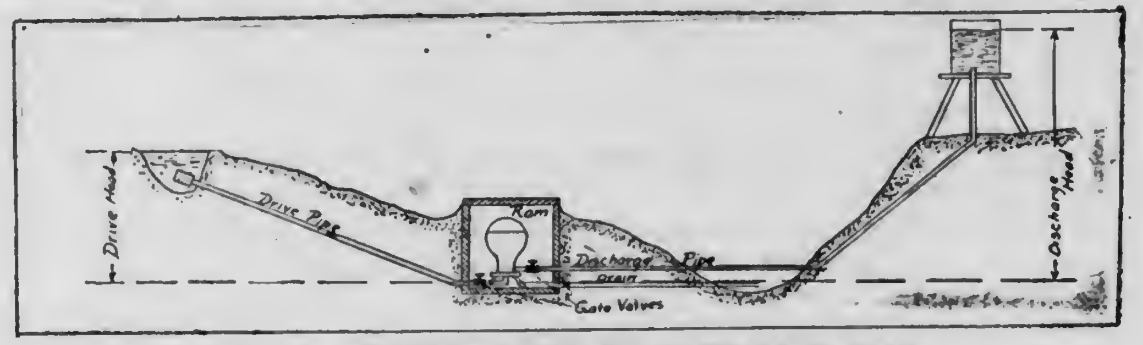

FIG. 6. WATER RAISED BY HYDRAULIC RAM.

A system of this kind is not affected by wind storms nor by temperature changes as is the elevated tank. Figure 7 illustrates the pneumatic water tank.

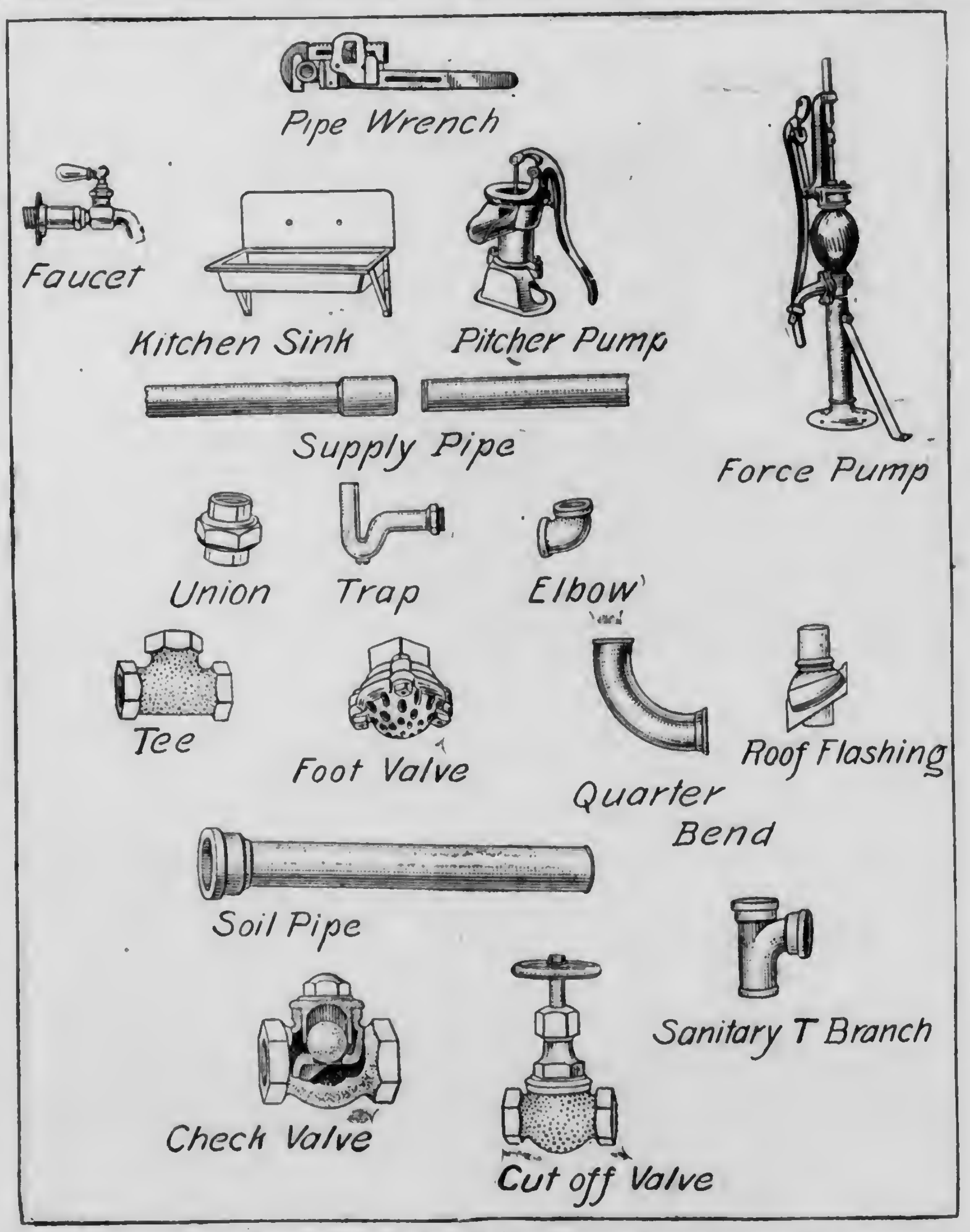

FIG. 9. PLUMBING PARTS USED IN WATER INSTALLATION.

Simple and Cheap Water Heating Device

Where a few dairy cows are kept and no dairy house is provided it is well nigh impossible to keep clean milk vessels when all the water is to be heated on the stove in the tea kettle. Also the matter of hot water for laundry purposes is rather a serious one on the average farm. Hot water for scalding hogs at butchering time is not always convenient. In fact there are many needs for an ample supply of hot water on the farm.

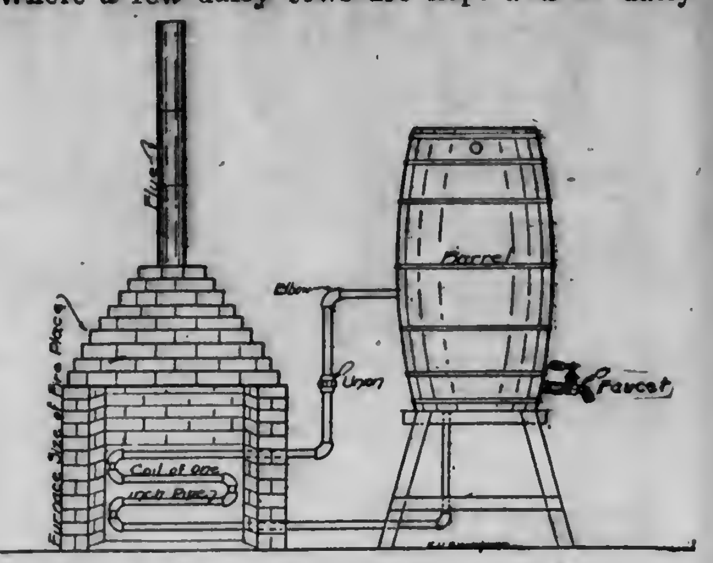

FIG. 8. CHEAP WATER HEATING DEVICE.

A simple heating device is illustrated in Figure 8. This consists of a coil of 1-inch pipe placed in a furnace about the size of an ordinary fire place. This coil is attached to a barrel which will hold from 30 to 50 gallons. The barrel should be provided with an opening at the top large enough to fill it conveniently and also a faucet should be provided for drawing water from the barrel.

Following is an approximate cost of the material to construct the water heater: Nine 1-inch elbows, $1.80; one 1-inch union, 35 cents; one faucet, $1; 20 feet 1-inch pipe, $2.20; 300 brick, $3; 1 barrel, $1; 1 sack cement, 65 cents; 3 joints of stove pipe, 45 cents. Total, $10.45.

As a general rule there is enough material around the farm to construct this water heater except probably the cement and necessary pipe, elbows and union.

It is often the case that a man who has not had a great deal of experience in plumbing will not understand some of the terms referred to in the bills of material: Such as check valve, union, elbow, tee, force pump, pitcher pump, trap, sanitary tee branch, etc. Therefore Figure 9 is included to acquaint one with these terms in order that he may prepare his own bill of material and install his own water system.

TREATING SEED WHEAT

The ravages of smut in wheat costs the farmers hundreds of thousands of dollars annually. Practical tests have repeatedly proved that smut may be controlled and the yield of wheat invariably increased by treating the seed. The method of treating seed for smut is simple, easy and cheap, costing only a few cents to treat enough seed for an acre. Briefly, the treatment consists in stirring a pint of formalin into 30 or 40 gallons of water, thoroly wetting the seed wheat with the solution and then drying it so that it will run thru the grain drill. Some persons prefer dipping the seed into the solution, others prefer sprinkling the solution on the seed. Whether the seed is dipped or sprinkled makes no difference provided it is thoroly wet with the solution. A pint of formalin will make enough solution for treating 25 to 50 bushels of seed. From this the farmers and local dealers can calculate the supply needed. Formalin is now cheap, but undoubtedly the price will rise in the early fall when the demand for it in treating seed becomes general over the country. It should therefore be obtained early

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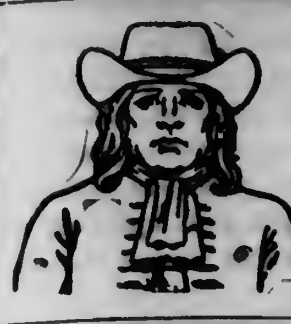

By The Way

By

Father Penn

Fertility Value of Feeds

Farmers generally realize that they are purchasing fertility as well as nutrition when they buy feed for their stock, but there has always been a lack of definite knowledge as to how much they should consider this to be; in other words, how much was used by the animal and how much returned in in the manure. The Ohio Experiment Station has recently made some experiments and investigations along this line which are interesting and useful.

The amount of fertility which the animal extracts from its feed and uses for itself, or in production, depends upon the age of the animal—whether it is making growth or not—and whether it is producing a product, as milk or eggs. A mature animal in good flesh and not producing—in other words, in a state of nutritive equilibrium—will return practically the whole of the fertility value to the soil.

The experiments made with a number of milk cows averaging 40 pounds of milk per day showed that the average cow returned 28.1 percent of the nitrogen in the milk. Of the remaining 72 percent, one-third was voided in the urine and two-thirds in the feces.

Of the potash contained in the food, 23 percent was contained in the milk, 52.6 percent in the urine, 21.8 percent in the feces, and 2.6 percent was retined in the body.

Of the phosphorus, 42.9 percent was contained in the milk, 1.2 percent in the urine and 60.4 percent in the feces. These figures total 104.5 percent and show that 4.5 percent was drawn directly from the skeleton of the cow.

A summary of this experiment shows that the excreta (fluid and solid), contained on the average 67.45 percent of the nitrogen, 74.4 percent of the potash and 61.1 percent of the phosphorus contained in the feed fed to the cows.

Lactation and egg production make heavy drafts upon the fertility value of the ration. The growth of animals also draws heavily but in a less degree.

The experiment with hogs above mentioned was with pigs weighing 80 pounds at the beginning, and fed out to fat-hog weight. It was found that these growing animals retained and built into their bodies 26 percent of the nitrogen of their feed. Fifty-six percent was found in the urine and 18 percent in the feces. The retention of potassium averaged 16 percent and of phosphorus 13 percent. It will thus be seen that, on the average, the following percentages were returned in the manure, liquid and solid: Nitrogen, 74; phosphorus, 87, and potassium, 86.

There is no other manure produced on the farm as rich as poultry manure, yet it receives on the average farm even less care than stable manure. The mixed manure from horses and cattle is worth from $1.50 to $3 per ton while poultry manure, when properly cared for is worth $5 to $6 per ton. This is due mainly to the fact that poultry is usually fed a ration which is relatively high in protein, and this element makes the manure rich in nitrogen—the most costly element in fertilizers. Poultry manure should be so handled that it will dry quickly. Otherwise, fermentation will very rapidly release the valuable nitrogen. One of the best methods of caring for it is to mix it with an absorbent, such as sawdust, road dust, fine coal ashes, etc., and with each 100 pounds of manure also add 40 pounds of acid phosphate. While poultry manure is rich in nitrogen, it is especially deficient in phosphoric acid.

Farmers in this country have given little real study to the subject of manures and now is a good time to begin. The shortage of fertilizer materials will not prove an unmixed blessing if it will force a better knowledge and better practices regarding farm manures and cover crops.

Just what the farmer can pay for a ton of stable manure, or for hauling and taking care of it varies with different conditions. For ten years the Missouri College of Agriculture has been investigating this question. Field tests have been made in thirteen different parts of the state. Different soils, seasons and kinds of manure have been included under ordinary methods of farming.

In practically all cases eight tons of manure to the acre was applied once in four years and plowed under before the corn crop. No manure was applied on the following crops of oats, wheat and clover, but the yields were all recorded. The increase in crop yields caused by the use of eight tons of manure per acre, were as follows: 10½ bushels of corn, 5½ bushels of wheat, 4 bushels of oats, and about 700 pounds of hay.. This is an average from sixty tests on corn and a somewhat less number on the other crops. Figuring these increases at normal prices they are worth about $16 or about $2 a ton for the eight tons of manure applied. With present prices which are almost double those of normal times, manure is worth correspondingly more or about $4 a ton. It is probable that the results in bushels and pounds would be about the same here in the east as in Missouri, but the value per ton of manure woudl be still greater because of the higher value of products.

Farm Lime Kiln

The accompanying photographs show the kilns which burns most of the lime used on farms in the southern part of Buffalo, East Buffalo and Limestone townships, Union Co., Pa. The kilns are on the south side of the limestone ridge which extends from Vicksburg to near Swengel, in Lewis township, a distance of eight miles. A number of other kilns are located on or along this ridge.

ENTRANCE TO FROCK LIME KILN, UNION CO., PA.

These kilns are six feet in diameter and about twenty feet deep, with a lime shed below from which the stone lime is wheeled out on the level to wagons. The owner has a tram road upon which the blasted stones are brought in by gravity to the kilns, where they are dumped easily. A weight running on a cable on the north side of the ridge pulls the empty car up the grade.

TRUCKING OUT THE LIME STONE.

Buckwheat coal is used to burn the lime, and the fuel is hauled by teams from Vicksburg station, one and one-half miles, around the end of the ridge on an easy grade. The price for stone lime at the kilns was 9½ cents per bushel, but now it is 10 cents, since the advance in the price of coal.

One year nearly 40,000 bushels of lime were burned and sold to farmers; but of late years the output has been from 15,000 to 25,000 bushels, owing to the shortage of help.

The owner finds ready sale for lime during the season of seeding, as most of the lime is either hauled onto fields plowed for fall wheat, on wheat stubbles for grass, or on sod for corn. The amount applied per acre varies from 40 to 100 bushels of stone lime. There is no need for sour soil or lack of clover due to want of lime here, if one is willing to buy lime and apply it.—J. N. Glover, Union County, Pa.

Harvesting Clover Seed

The value of the clover seed produced annually in this country amounts to millions of dollars, yet it may properly be classed as a by-product of the farm. Only a very small part of the clover crop is grown exclusively for seed, the greater part of the seed being produced from second crop clover which is grown primarily for hay, and for improving the soil. Notwithstanding the production of clover seed is only a side line on most farms, it is often an important addition to the farm income.

When the second crop of clover is intended for seed, it should be allowed to stand until the seed is ripe, and the stalks are quite dead before cutting. If an extensive crop is to be handled, a windrowing and bunching attachment for the mower is a help in saving the crop. The average cost of these attachments is about $12. They gather the hay as it falls behind the cutter bar, and dro pit in windrows or bunches, at the will of the driver. If these attachments are not used, a side delivery hay rake will be found superior to the ordinary rake, as it forms a neat windrow, which is easily gathered up by hand.

After the crop is thoroly cured it can be stored in the mow or stack, or it can be hauled directly from the windrow to the huller. The latter method is entirely satisfactory if no hard rains intervene. If the windrows become soaked by rain, it will be necessary to open them to the sun and air, as damp clover can not be successfully hulled. Clover which is hauled direct from the windrow after a week of dry weather is usually dryer than that which has been stacked or stored in the mow. The latter method is sometimes particularly unsatisfactory, as the clover sweats in the mow and comes out damp. There is some evidence that the crop cures better when solidly tramped in a barn with close weather boarding, than when it is loosely packed in an open, airy mow. We do not mention this as an invariable rule, but the experience of some indicates the truth of the statement.

Most modern clover hullers are equipped with self feeders. The clover should be evenly fed into the machine, and if a part of it is damp it is well when possible to mix the damp portion with the dryer clover, rather than to feed steadily for a time with damp clover. The best huller manufactured cannot be depended on to secure all the seed from damp clover, therefore, in order to reduce the loss to a minimum, we should endeavor to have the crop in prime condition for hulling. Clover seed is too valuable a product to waste by avoidable carelessness in handling. When the crop is stacked outdoors it should be protected by a stack cover, or a few forkfuls of timothy or other long hay distributed over the top of the stack. A bottom of poles or old rails will keep the stack from drawing moisture from the ground. The clover will be dryer if it is allowed to cure two or three weeks in the stack before hulling.

The yield of clover seed per acre varies greatly, and there is an equal variation in the yield of seed per ton of dry clover. Men who have hulled clover in this section for many years place the maximum yield at about six bushels of clean medium red seed per acre. This yield is very rarely obtained; two bushels per acre is probably above the average. At the prevailing high price of seed, it would appear that one bushel of clean seed per acre would be ample pay for the expense of cutting, curing and hulling. The usual charge for hulling clover seed is $1 per bushel. In some cases the seed is clean enough to sow as it comes from the machine, but if it contains many weed seed it will certainly pay to have it recleaned. The seed of plantain and many other noxious weeds is often spread from farm to farm by sowing infested clover seed. There is usually a satisfactory local demand for clean clover seed, and the highest price is obtained by selling direct to neighboring farmers. However, in order to hold a local trade it wil be necessary to build up a reputation for clean, dependable seed. The farmer who has an established reputation for selling good seed will have no difficulty in disposing of his crop at satisfactory prices.

The over-ripe woody straw that remains after hulling is not very valuable feeding, yet stock will consume the better portions of it, and the remainder can be used for bedding. Being rich in nitrogen, it increases the value of the manure with which it is mixed, and the fine chaffy condition of the straw makes it a good absorbent of liquids. When the clover straw is used as an absorbent, and returned to the soil with the manure, only a part of the elements of fertility contained in the clover crop will be lost.—John Marsh, Jefferson Co., O.

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PHILADELPHIA, PA., AUGUST 18, 1917.

WHEAT OR RYE? Anticipating the needs of this country and of the world for the next two years, the Secretary of Agriculture has figured that we need to increase the acreage sown to wheat by about 18 percent. It is estimated that we should produce a harvest of one billion bushels of wheat and eighty-three million bushels of rye. The wheat crop and wheat prices have received more attention than rye during the past year or two—in fact rye is not accorded a guaranteed minimum price as is wheat, but we believe that it will continue to demand a good price in sympathy with wheat as in the past.

It is possible that the acreage of wheat here in the east might be profitably increased somewhat, but we believe that greater care in the preparation of the seed bed, careful selection and grading of seed and more intelligent fertilization will produce more bushels of increase than will an extensive increase in acreage without these better methods. It seems to us that the greatest opportunity for increasing the amount of bread-making grain is in increasing the rye crop. Rye is already much in demand and the price has been steadily increasing with that of wheat. Rye bread has for years been the chief bread grain of many of the countries of Europe, and it is likely that the call for export grain will include a great deal of rye.

There are several reasons why rye should appeal to many eastern farmers rather than wheat. First, it will succeed on soils and in localities where wheat is not profitable; second, it may be seeded two or three weeks later and make relatively as good a crop; third, it is too late in a large part of our section to sow wheat after harvesting silage corn while rye will frequently succeed well; fourth, rye straw is in good demand in the market and rye will yield more straw to the acre than wheat. These are some of the reasons why it will pay farmers to seriously consider sowing rye, rather than to make a general and indiscriminate increase in the acreage of wheat.

* * *

WHEAT PRICES The much discussed food control bill is now a law and Herbert C. Hoover has been appointed food administrator. Control of wheat, flour and bread will be the first step taken under the law, and rules for such control, to become effective on September 1, have been formulated. The vital features of the control plan include establishment of a minimum price by a price-fixing board, suspension of all dealings in wheat futures, licensing of all elevators and mills under certain guarantee requirements, and preparation by the government to take over the entire wheat crop of 1917. The price once established, the food administration announces that it expects to use all of the power vested in it to handle the complete 1917 crop upon that price basis without change or fluctuation. Thus, it is pointed out, there will be no inducement to farmers to hold their crop in anticipation of a raise.

The effort is wholly experimental, however well supported by theory, and the development of the plan will be watched with keen interest. The matter of first importance to farmers will be the price determined upon by the committee. This price can not well be below the $2 price established for next year. If it is less, much wheat will be held by some method for the higher price assured for the 1918 crop.

* * *

THE DEBT Last week we bade God speed to a loved one departing for "somewhere in France". As we saw this young man masterful and confident in an officer's uniform, but to us just a boy—Our Boy—we felt the keen personal sting of war's sacrifices. Up to this time it had been only The War. Now it is Our War; our boy is there. We make no apology for the sense of personal sacrifice we experienced, even tho we expect to welcome back our own. It is our right, just as it is the right of every father or mother or loved one. Regardless of the thousands and millions that may be called to the colors, our sacrifice is our own and for us the war will revolve around Our Boy.

But as we saw him depart we were led to ask ourselves, what is this institution we call our country. By what right may it take our boy and other boys to fight its battles? Again we make no apology for the query. Fathers and mothers are asking that same question all over the land. And then we thought of a country without cast or creed. We compared our lot among our fellowmen with that of others in less favored lands. We thought of our peaceful home made safe and secure, not by our might or right, but by the grace of a benevolent and protecting country. We thought of our children secure in the home and welcomed into a free school, a free church and a free society. We thought of The Boys who had come up from the humble home, been educated in one of the best free colleges in the land and had gone out to take useful and influential positions in a freedom-loving republic. We thought of the free hospitals, the free libraries, the laws of health and sanitation, the laws for the suppression of vice and crime, the laws for protection against injustice and force. We thought of a free people inhabiting a free country and partaking of the benefits of a free republic.

And again we were led to ask, what have we ever given in return? The answer came, only taxes—only money. And money is the easiest, the most impersonal thing in the world to give. The richest possessions of the American people were not purchased by money alone. It took more than taxes to give us the full measure of "life, liberty and pursuit of happiness." These things are ours today because some other mothers' sons, some other fathers' boys, some other loved ones went forth in time of need, willing and ready to make the supreme sacrifice for new ideals, for new standards of country and home. They purchased the rich inheritance which we are called upon today to extend to other peoples and other lands. By the grim sacrifice of war this inheritance was won; by war it must be maintained for the present. We know in our hearts that war is not the best way, but it is man's way. And we submit to that way until by God's will there shall be no more war, and justice and right shall prevail because they are just and right.

In the contemplation of these things we know that this is not the country's battle our boy is called to fight. It is humanity's war. The benefits of democracy are ours to give; not to withhold by selfish thought of personal loss. And then we think of that "only begotten Son" who so loved the world that He submitted to the supreme sacrifice that His teaching, His example and His love for humanity should not perish but have everlasting life. If the principles for which this war is waged, if our participation shall make the "world safe for democracy" and, being safe, the sacrifices of the day shall make democracy safe for the world and raise humanity closer to His ideals, we can see Our Boy go. We may not be able to say "It is Well", but we can say It is Needful and for the present It is Right.

* * *

THE PRESS AND FARMERS Public sentiment is made by what the public reads. The opinions held by most people are, after all, the opinions of some one else unconsciously imbibed thru reading, and association with others. The public's reading matter is then a matter of grave importance, since those who furnish it have the opportunity of creating public thought and indirectly shaping the public attitude towards any question upon which editors agree. Luckily in most matters—politics, religion, social matters, etc.—the makers of public opinion differ enough in their views and disseminate such a variety of opinion that we are compelled to think for ourselves and hence have a chance to formulate our own opinions, provided we do not confine ourselves to one school of thought in reading.

There are some subjects upon which there is a wonderful similarity of expression on the part of most city papers. One is in regard to the questions pertaining to the economics of agriculture. They are ready enough to criticise the farmer and urge him to greater production, and are free with their sentimental stuff about him and his business, but when it comes to fighting the battles which are ever waging between justice and right for agriculture as against special privileges for big business they line up against agriculture. There are but two reasons which may account for this; one is ignorance of the subject, and the other is a willful intent to favor other business at the farmer's expense. A case in point will illustrate our meaning, that of the present discussion of proposed laws to foster and regulate trade and prices in different lines. On the question of a minimum price for wheat a leading commercial journal has the following:

> "Incidentally it may be asked, Why should the American Government fix the price of wheat to the farmer at $2 per bushel, when the cost at the farm is $1 or less? This is coddling a class, who already have more than their share of political favors, to the point of absurdity. If the Government is to assure the farmer 100 percent profit in such times as these, where do others come in?"

On the same page is the following, quoted from an iron trade journal; the article being on the necessity of encouraging the iron trade by giving it liberty and allowing good prices:

> "Industry should be a nation's chief bulwark in war and be utilized to the fullest power for the protection and preservation of all. Its minimum and just desert, however, is the sustained power to maintain itself properly, to continue normal growth and to be able to make an adequate return on the capital invested. Anything less would be subversive of sound economic principles. The nation in the end would be the most damaged. It is gratifying that the President has enunciated his adherence to a policy of fair remuneration for productive effort and management."

Not only on the question of trade regulation and price control do these papers push the claims of "big business", but also in the methods of raising the needed sums for war expenses. When it is proposed to tax large incomes and excess profits a mighty and harmonious howl of protest goes up from such papers, and the claim is made that such action is striking at the foundations of industry and tends to discourage capital and individual effort.

These same papers, with one or two notable exceptions, line up in opposition to laws looking to the prohibition of the liquor traffic. As long as the question is merely one of abstract morals, they are willing to pose as temperance advocates, but when the concrete proposition of national prohibition, either as a war-time measure or as a permanent amendment, comes up they line up in opposition, using the two threadbare and exploded arguments of personal liberty and the reduction of revenue. Neither of these is the real reason for the opposition.

The point we wish all farmers to realize is that the farm press of the better kind is the only maker of public opinion upon which they can depend to fairly represent them, their business and their ideals. True, there are weak-kneed farm papers, but on the whole they may usually be found championing the cause of justice and right, and fair treatment for all. We believe most farmers realize this and hence are loyal to the farm papers which they believe best serve and represent them. The American farmer is noted as being the greatest reader of farm literature in the world. There are some, however—and they are usually found among the least successful—who take no farm papers, claiming that they know all that is necessary to know on the subject. This class does not realize that teaching how to raise crops is but one phase of a farm paper's usefulness. They fail to understand that the advancement of agriculture in the social, commercial and political fields depends largely upon the faithful and intelligent work of farm papers, and that they are a mighty force in creating public sentiment in favor of right and justice.

HARRISBURG NOTES

Governmental Shake-up.—People observing state politics have gotten so accustomed to outbursts of partisanship that the demand of Governor Brumbaugh for the resignation of Highway Commissioner Frank B. Black furnished only a short-lived sensation. These people have been looking for the governor to "clean house" on a basis of politics ever since August, 1915. Eight months ago Mr. Black refused to give places in his department on a political basis and irritated men high in administration affairs. When he was confirmed and others went down in the senate, Capitol Hill suspected that he would not last long. The controversy with the governor over the method of apportioning the money for road construction was adroitly used by the men who felt that Mr. Black did not realize that he had to play politics. Mr. Black charges in his resignation that he was ordered to play politics and it is expected that some of his officials will resign and that others in the Capitol, some in high places, may go. The men who are really the state government mean to use what there is here to make themselves secure or to advance themselves. Their power is shown by the displacement of a Brumbaugh intimate.

The Final Straw.—When Mr. Black was made highway commissioner he developed independent tendencies and refused a number of favors to political friends of the governor. Recently he informed a delegation from Cambria County that he would not give more than its share of state money for roads to any county, no matter whether the county offered to match a million of state money. Mr. Black proposed to divide the money on what he calls an equitable basis and says that to do otherwise would be a crime. Twenty-six counties have applied for state assistance in building roads on the share and share alike basis and Capitol Hill has been rife with rumors that some of them were sending men here because they did not like what Mr. Black offered. It will be interesting to see what the next highway commissioner does.

Patton Mentioned.—Secretary of Agriculture Charles E. Patton, who wanted to be highway commissioner when the governor made the selection a personal one and picked Mr. Black, is being boomed for commissioner. Several other men are talked of for the place, among them Insurance Commissioner O'Neal. It is likely that an appointment will be made promptly as there are a number of contracts to be let and the money must be apportioned for work.

Rural Schools. — State educational authorities are giving close attention to the conditions in the rural school districts, many of which report teachers scarce. There have also been some requests for help from districts which have assessed their taxes and which have borrowed up to their limits and now face increased bills because of the approval of the teachers' minimum salary bill. These districts will not be paid for the outlay for larger salaries until next year. The proposed course of physical training will likely be installed this winter but will not require additional money as it will be mainly "setting up" exercises.

The Primaries.—The filing of nominating petitions at the Capitol for judicial nominations is a rather striking commentary upon the way the present law acts. There are only five districts where candidates for the bench are not opposed and four of them are sitting judges. In other districts well known judges are facing nasty fights while in Philadelphia and Pittsburgh there are regular scrambles on for the bench.

Money Rolling In.—Money continues to roll into the State Highway department at the rate of $3,000 to $4,000 a day for automobile licenses. The payments on this score have been very heavy and have attracted much attention because they show what big sums the state will have for maintenance of the main highways and the extent of motor vehicle ownership in Pennsylvania.

The Draft Quotas.—The final quotas for Pennsylvania's contribution to the new army have been given out here and the latest instructions show that exemptions are left to what is known as district boards. There will be nine of these boards and they will have the final determination whether men shall be left on the farm, railroad or industrial and business establishments.

Suggest Markets.—The Department of Agriculture is suggesting that every community of 20,000 or over establish a municipal market and that it provide a building and give it rent free to farmers for the first six months. With improved roads and the increase of automobiles it is contended that the farmers should take more produce to curb markets. An extended statement on the subject will be issued.

Jump in Oleo Licenses.—The revenue of the state dairy and food division this year will be the greatest on record. The oleo licenses have passed the 3,600 mark and may go to 4,000. The oleo licenses are a big factor in the revenues.

Discuss Carloads.—The new bureau of markets is urging granges to name marketing secretaries and is outlining an extensive system of price lists and information blanks. There is also talk of a daily service, but the funds at hand will scarcely permit that to be done. It is stated at the Capitol that many requests for purchase of carload lots of peaches and offers of that fruit in such lots have been made. It is believed that advantageous arrangements can be made for sale and purchase of vegetables and that the seed question can be solved. — Hamilton, Harrisburg, August 13.

NEW JERSEY NOTES

Potato Prospects. — Secretary Agee announces in monthly crop report that the condition of the New Jersey potato crop has gone down 18 percent and there is not likely to be the great reduction in prices next winter and spring that was anticipated in view of the earlier reports. The present indication is that the product will be only four-fifths of a full yield. The recent hot weather and the development of disease that usually follows showers are given as causes. He urges all the people to buy liberally of potatoes this fall.

Other Crops.—Conditions of the different crops as compared with the same time a year ago are given as follows: Oats, 96 percent; corn, 97; buckwheat, acreage sown, 115 percent, condition, 96; hay, acreage of all cultivated varieties, 90 percent; pasture, 80; white potatoes, 80; sweet potatoes, 84; tomatoes, late, acreage, 110; tomatoes (all), 81; cabbage, 91; onions, 89; apples, 70; pears, 60; blackberries, 93; raspberries, 90; poultry, number of pullets this year compared with usual, 90 percent; poultry, number of adult hens, 80; eggs, production for July, 35 percent. Correspondents of the department say there is still need of labor for the harvest.

Normal School.—The State Board of Education has decided not to vote on the selection of site for the new South Jersey Normal School until it is determined what kind of a school it is to be. The question involves whether the school shall be planned to train city or country teachers and whether the agricultural training side of the new institution shall be stressed. New Jersey must have some place to train teachers in agriculture before they can begin to benefit from the Smith-Hughes Act.

Peach-Packing Schools. — A novel idea has been tried out recently by the Bureau of Markets in establishing, in co-operation with the State Agricultural College, peach-packing schools in localities where peaches are a money crop. Eight of these schools have already been conducted and hundreds of growers, women, girls, and boys have received a two-day course in the proper packing of peaches. The purposes of the schools are to alleviate the shortage of skilled workers; to establish uniform grades of peaches in the markets supplied by this state, so that consumers will know just what they are buying and will have a preference for the New Jersey product and to prevent waste and enable the fruit to reach market in first-class condition. This step will be carried further.

Promptness in Official Reports.—The heads of state departments who fail to submit their annual reports by November 30 will forfeit half of their salaries for the period during which they are tardy in this respect. The State Printing Board dug up a law providing for this course.

Tomato Crop.—Reports come from South Jersey that the tomato canneries are making an early start this year. It is roughly estimated that the farmers of this section planted at least 20,000 acres in tomatoes and the yield is expected to be 140,000 tons. It is stated that packers have contracted with farmers at prices ranging from $12.50 to $15 a ton. Many farmers declined to contract, preferring to sell in the open markets.—L.

NEW YORK NOTES

League to Buy Feed.—The plan for co-operative purchasing of dairy feeds has been worked out temporarily and is in the hands of the various branches of the Dairymen's League. Each branch league makes its own arrangement in selecting a local salesman or dealer—in many cases this being the manager of the local milk shipping station. Price quotations are expected soon and members are arranging the machinery for the handling of their own feeds.

Help from Lackawanna.—Cortland County farmers are grateful to the Lackawanna Railroad for laborers, 90 percent of whom give satisfactory service. The requests for labor were far in excess of the supply, however. Local manufacturers failed to give aid as expected and three different agencies in New York City have been appealed to for workmen. County Agent Merchant will visit the city at once to select these helpers.

Conservation and Express Companies.—During June the State Foods and Markets Department received from the farmers via the Adams Express Company 541½ cases of eggs on consignment for sale. Of these 179 cases arrived in a damaged condition, 165 dozen eggs were broken, 311⅙ dozen were stained, and 49⅙ dozen were stolen or missing. During the same month the department received via the American Express Company 714 cases of which 201 cases were damaged, with 169½ dozen eggs broken, 161 dozen stained and 17 dozen stolen or missing. One-third of the whole number handled was damaged. The Express Companies now announce that they will not consider claims for damages unless more than 1½ dozen are broken in a 30-dozen case. The Department has filed a protest against this regulation as it gives the producer no redress on a smaller amount, discouraging production and lessening the supply of eggs. While the public is busy urging the farmer to increased production why not regulate the business of the autocratic Express Companies, and stop their careless destruction of valuable food?

Hay and Grain Situation.—New York City dealers report sales of hay as low as $6 per ton. There is no demand and almost any price is accepted to unload the cars for other uses. The asking prices are $10 to $13 for good timothy hay. But farmers are urged to sell in local markets at present. About 20 percent of the old crop is left over, and the new crop is large. The advances in feed have been sensational. Corn meal is $4.30 a bag by the carload. The situation is cruel for stock feeders, with other feeds jumping $1 to $5 per ton. Only careful study of prices and values will save the feeders. Hominy is better than corn meal in every way, and sells for $25 a ton cheaper, because not so well known. Cottonseed meal is $50 to $55 a ton. Wheat feeds have advanced sharply, because the big mills can get no wheat. Gluten feed is $55; linseed, $33; hominy, $58.50; middlings, $50. It is hoped that pasturage will hold out until food legislation is out of the way and milling is back to its normal output. Whole corn is already unobtainable in country towns.

New Public Markets.—In line with the policies of the mayors of the state, Cortland, Elmira and Binghamton each opened their new public markets this week. In each case the opening business was very successful, there being a jam of customers. New buildings with counters and scales for the free use of the farmers have been furnished by the municipalities with the hope of enabling the residents to buy direct from farmers at a price below what is charged by the retail dealers.

Potatoes From Field to Cellar.—The State Food Supply Commission is arranging for meetings to be held in each potato growing section where plans for equalized prices for potatoes will be made public. Wherever possible consumers are to be urged to buy their year's supply direct from the field. Co-operative storage is to be encouraged so the producer may hold his own potatoes, and not turn them over to the speculators. The commission wants to equalize the price to prevail thruout the year with a fair and reasonable profit to the farmer.

Refuse to Endorse Food Bill.—The Syracuse Chamber of Commerce protests against the new food bill as outlined by the special session of the Legislature. This is merely one expression of opinion but is typical of the general feeling that prevails thruout the state. The bill was drawn by Majority-leader Brown, who ignored several plainly expressed wishes of the Governor in its provisions. The war committee threw a bombshell into state politics when it named its commissioners as follows, to serve without salary: Theodore Roosevelt, James Wadsworth, of Livingstone Co., a Republican, and Morgan J. O'Brien, of New York, a Democrat. The measure would empower municipalities in time of food shortage to buy food on municipal credit and sell to residents and the commission is to regulate unfair practices, menus in public eating houses when necessary, etc. There is to be no commandeering of food by the state. An appropriation of $16,000,000 is called for for administrative expenses. The bill as it stands is deemed too indefinite, creating too many new offices and salaries, when all that was needed was a fractional part of proposed appropriation expended in market and storage facilities, and an honest regulation of transportation and distribution agencies, to give a free channel from producer to consumer, in times of war or of peace.—F.

EASTERN FAIRS NEXT WEEK

PENNSYLVANIA FAIRS—1917

County	Town	Date
Bedford	Osterburg	Aug.21-23
Berks	Kutztown	Aug.21-24
Butler	Butler	Aug.21-24
Warren	Warren	Aug.21-24

NEW YORK FAIRS—1917

Cortland	Cortland	Aug.20-25
Orange	Middletown	Aug.21-23
Chenango	Afton	Aug.21-24
Oswego	Sandy Creek	Aug.21-24
St. Lawrence	Gouveneur	Aug.21-24
Warren	Warrensburg	Aug.21-24
Wyoming	Warsaw	Aug.21-24

MARYLAND FAIRS—1917

Dorchester	Cambridge	Aug.21-24

FARM MEETING CALENDAR

Cecil County Farmers' Day, Port Deposit, Md., August 18.
Society of American Florists, New York City, August 21-23.
Northern Nut Growers' Association, Stamford, Conn., September 5-6.
Farmers' Field Day, N. J. Experiment Station, New Brunswick, N. J., September 6.
Solebury Farmers' Exhibit, Solebury, Pa., September 7-8.
New York State Fair, Syracuse, N. Y., September 10-15.
Inter-State Fair, Trenton, N. J., September 24-28.
Dairy Cattle Congress, Waterloo, Ia., October 1-7.
Eastern States Exposition, Springfield, Mass., October 12-20.
National Dairy Show, Columbus, O., October 18-27.
American Pomological Society, Boston, Mass., October 31-November 4.

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Getting Most from Manures

Saving High-Priced Fertilizers

Stable manure is one of the big assets on the farm—in fact, the mainstay of crop production. It is an encouraging sign that the majority of farmers are coming to realize it. The old dictum that was prominent in the agricultural press, the farmers' institute or the experimental station bulletin a decade or so ago, warning the farmer against piling his manure under the eaves of the barn and allowing the fertility to leach down a slope into the nearest creek, is seldom mentioned. With the passing of grain-growing as a specialty and the advent of live stock as the principal feature of agricultural activities, the farmer has come to grapple with the situation from a scientific standpoint. Whereas, he formerly depleted the soil by marketing its fertility, he now aims to put back as much or more than he takes in the form of crops.

Anyone who has received a jolt from the dealer in commercial fertilizers has a pretty good object lesson regarding the cash value of nitrogen, potash and phosphoric acid. When bringing home a load of cotton seed meal, linseed meal or other rich nitrogenous feeds, it is well to consider not alone their feeding value, but also their fertilizing value. After consumption, there will remain an average of 75 percent of the foregoing constituents to be utilized for feeding next season's crops. My experience leads me to believe that the safest way for the average farmer to buy fertilizers is by way of the feed bin. That means two profits for the one investment, which ought to make the transaction a highly satisfactory one.

COOPERATIVE MILK DELIVERY WITH MOTOR TRUCK.

How to get the greatest returns from the fertilizer produced on the farm is a live problem. Quite often the fact is overlooked that there are different types of soil requiring different treatment. For instance, we all know that it would hardly pay to put much farmyard manure on muck land. It is rich in nitrogen, phosphoric acid and organic matter, but is likely to be deficient in potash. Yet I have seen farmers applying all the way from 10 to 15 tons to the acre on just such lands. In such cases, all the benefit derived is from the potash contained in the manure. The result of an experiment conducted by the Indiana Station showed that one application of 200 pounds of potash on muck soil gave an increase of 89 bushels of corn to the acre, while an application of ten tons of barnyard manure to the acre increased the yield only 51 bushels during the same time. The potash then cost about $5 and the 10 tons of manure would be worth $20. This is a big waste of good fertilizing materials that would be of great value to sandy or clay soils.

In addition to the kind of soils there are several other general principles that govern the use of farm manures. The most important of these are type of farming, rotation of crops, topography of land, time, method and rate of application, the amount of manure available for use and the total number of acres to be manured. Regarding the quantity of manure that may be profitably applied to the land, much depends upon the kind of farming followed. Truck growers and market gardeners, owing to the ability of their crops to use a large amount of available plant food and the comparatively high price received for them, use exceptionally heavy applications each year on the same ground. When well decomposed, this also improves the water-absorbing and retaining power of the soil as well as its bacterial and physical conditions.

Sometimes on a dairy farm that is heavily stocked, and with a short rotation of crops followed, it becomes necessary to manure the land rather heavier than would otherwise be desirable in order to utilize all the manure. On a general farm, not so well stocked, this could not be considered good practice. Applying too much to the acre is a mistake and is bound to result in loss. I have seen a field lying next to the highway receive approximately 20 tons per acre while a meadow at the back of the farm was left without any form of fertilizer for ten years. This policy of robbing Peter to pay Paul gets a farmer nowhere, and if he keeps any tab on his operations ordinary business acumen ought, in time, to lead him to abandon such a senseless show of vanity.

Experiments at the Pennsylvania station clearly demonstrate that much of the value of such applications is lost. In a four-year rotation of corn oats, wheat and grass, manure was applied at the rate of six, eight and ten tons to the acre for the corn and wheat crops, making the applications 12, 16 and 20 tons to the acre during the rotation. The average increase per ton of manure for 25 years has been $2.16 where 12 tons were applied, $1.66 where 16 tons were applied and $1.44 where 20 tons were applied during each four years.

When the land is rolling or of a decidedly hilly nature, it is better not to apply the manure until a short time before one is ready to plow or harrow it into the soil. When spread over such lands for several months there is a considerable risk of much of the soluble constituents escaping in drainage. A heavy rain can do a good deal of damage under such conditions by washing off the field many of the small particles of manure.

The time that manure is applied to the land has a good deal to do with its effect on some crops. Corn grown where manure was spread during the fall and winter will usually produce a larger yield than where the application was made just previous to planting. Also, meadows that have received a top-dressing of manure during the fall give a good increase, but if delayed until spring no beneficial results are likely to be observed.

Finally, the value of manure is influenced very largely by the method of application. If left lying over the field unevenly distributed and in large lumps it may be several years before these lumps become decomposed and available for plant food. For proper fining and even distributing, the manure spreader is almost indispensible. Not only that, but the supply of manure at hand will cover more land and the application may be made more frequently.—J. Hugh McKenney.

LEGUMES FOR DAIRY COWS

The dairyman who raises an abundance of legume roughage establishes a basis for an economical home-grown ration which makes it unnecessary for him to purchase protein-rich feeds. Good, properly cured hay from any of the common legumes has a high percentage of digestible protein. The following table shows the comparative values of several common roughages and concentrates.

Crops	Yield per acre.	Digestible protein per acre.	Digestible carbohydrates per acre.	Digestible fat per acre.	Total of nutrients (fat x 2¼) per acre.
	Tons	Lbs.	Lbs.	Lbs.	Lbs.
Alfalfa hay ...	2½	530	1,950	45	2,581
Cowpea hay ...	1½	393	1,011	30	1,471
Red-clover hay.	1¼	190	982	45	1,273
Peanut vines, nuts removed .	1	132	740	60	1,007
Soy-bean hay .	1¼	292	980	30	1,339
Sweet-clover hay	2	436	1,538	28	2,337
Oat-and-pea hay	1¼	207	917	38	1,209
Timothy hay .	1	60	850	24	970
Corn silage ...	8	176	2,400	112	2,828
One ton bran .		250	832	60	1,217
One ton corn meal		138	1,380	70	1,676
Velvet beans ..	1½	360	1,209	42	1,663

This table shows that an acre of good alfalfa furnishes twice as much protein as a ton of bran, four times as much as a ton of corn meal, and nine times as much as an acre of timothy. When the ration consists of an abundance of silage and good legume hay, cows of moderate production often require but little grain. Cows which give more than 25 or 30 lbs. of milk daily require the addition of concentrates if high production is to be maintained.—U. S. Dept. of Agriculture.

WHEN TO CUT SILAGE CORN

One of the few cases where a man had better be too late than too early is in the time of filling the silo. By all means avoid cutting silage corn too early. Silage from immature corn turns sour, is less palatable than when properly made, and has lower feeding value. Best results are obtained by commencing to fill while the leaves of the upper part of the stalks are yet green, but not until the kernels are distinctly dented, in dent varieties, or considerably hardened in others.

When silage corn is so dry that the cut fodder does not feel moist as it is squeezed in the hand, water should be added at filling time. This can best be accomplished by turning a running hose into the blower. The amount of water to be used will depend on the rate of filling. Aim to make the cut fodder moist enough to pack down solidly. Farmers who are making their first use of silos this fall in order to save all they can of the short feed supply, will do well to give close attention to the matter of cutting the corn at the proper time. An error then may mean feed wasted instead of feed conserved. And feed conserved will help win the war.

What is a Cow Worth?

The items in this article were taken from data gathered by Mr. F. T. Riddell, of the Experiment Station of the Michigan Agricultural College, from twenty-five herds, consisting of 444 cows. This data was taken during the years of 1914 and 1915. The herds investigated were producing market milk. The factors entering into the production of market milk are so nearly identical with the factors in the production of all clean milk, that the data is considered authentic for the production of all milk.

There are items that will vary on the different farms—in fact, do vary. This data gives the costs and production of the average cow of the 444 for two years. The following are the average fixed charges per cow per year:

Man labor per cow per year	$28.43
Horse labor and handling milk ..	15.15
Cash sundries, (articles used within the year)	1.86
Veterinary services	.93
Charges on buildings	9.57
Charges on equipment	.50
Added earning power	6.00
	$62.44
Less manure (11⅔ tons at $1.50 per ton)	$17.50
	$44.94

Interest, Taxes and Depreciation Charges on Investment in Cow

Interest on cost at	6 % per year
Taxes on cost at	1 % per year
Depreciation on cow at ...	10% per year
Total	17% per year

of feed. How much is she worth? Multiplying the number of pounds of milk by $2, the price per cwt., gives $138.54 as the gross proceeds of the cow for one year. From this sum subtract $80, the cost of feed, and $44.94, the fixed charges. This will leave $13.60, which represents the depreciation of the cow 10 percent; taxes one percent; interest on the investment six percent, or 17 percent of her value. Dividing $13.60 by 17, we get one percent of the value of the cow, or .80. Multiply by 100, we get the value of the cow, or $80.

This data can be used in every case, no matter what the percent of butter-fat, the cost of feed, or any other item that may enter into the keeping or handling of a herd of dairy cattle.

There is one item that is given no consideration in this article; that is, the increased value of the progeny of a purebred cow.

This year, considering the exceedingly high cost of feed and labor, it would be well for every dairyman to ask the question of each of his cows: "What are you worth?" and find out, and abide by the result.

With the hope that this article will help the man who has cows to be better able to know their worth, their profit or loss, is the reason it was written.—W. F. Raven.

To Determine the Value of a Cow

To pay 10 percent depreciation and one percent taxes and six percent interest on investment. Calculations based on 3½ percent milk at $2 cwt.

Value of Cow is	When Feed Consumed Amounts to $40 lbs. milk	$50 lbs. milk	$60 lbs. milk	$70 lbs. milk	$80 lbs. milk	$90 lbs. milk	$100 lbs. milk
$ 60	4757	5257	5757	6257	6757	7257	7757
70	4842	5342	5842	6342	6842	7342	7842
80	4927	5427	5927	6427	6927	7427	7927
90	5012	5512	6012	6512	7012	7512	8012
100	5097	5597	6097	6597	7097	7597	8097
150	5522	6022	6522	7022	7522	8022	8522
200	5947	6447	6947	7447	7947	8447	8947
300	6797	7297	7797	8297	8797	9297	9797
400	7647	8147	8647	9147	9647	10147	10647

This table is based on $2 per cwt. per 3½ percent milk. How is the value of the cow determined? Suppose you had a cow that cost $60, and she ate $70 worth of feed in one year. You would, to determine the value of the cow, multiply $60 by 17 percent, which will equal $10.20 the amount of depreciation, taxes, and interest on the cow. Add to this the cost of feed for the cow for one year; also the fixed charges—$10.20 plus $70 plus $62.44 equals $142.64, the total cost of the cow for one year. From the cost of the cow, we will deduct a credit for manure at the barn, of $17.50 (11⅔ tons at $1.50 per ton), which will leave $125.14. Dividing this by $2, the price of milk, we get 6,257, the number of pounds of milk the cow must give to be worth her cost of $60.

This data enables the dairyman to take a very close inventory of the cows he may have to feed and care for this winter, or any other time.

Example.—A cow giving 6,927 lbs. of 3½ percent milk, eating $80 worth of feed.

NEW YORK MILK ADVANCES

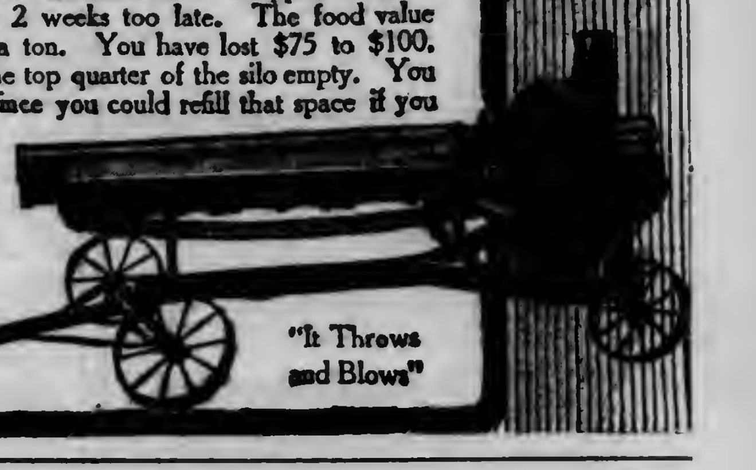
The Borden Company announced an advance in retail milk prices in New York City on August 1, as follows:

Grade B milk, 12½ cents a quart; Grade A milk, 13½ cents a quart.

In its announcement the Borden Company told of the institution of a "three way service" which went into effect August 1. There is to be a home service of delivery by wagons as at present, a store bottle service whereby consumers can purchase milk at stores, and a bulk service which will allow consumers to obtain milk in stores by furnishing their own containers.

Grade A milk purchased at stores under the new arrangement is to cost 12 cents a quart, with an additional deposit of 5 cents for the bottle. Grade B milk under the store plan will cost 11 cents a quart, with the additional deposit of 5 cents, which will be refunded on return of the bottle. Milk sold in bulk is to cost 8½ cents a quart.

An unsatisfactory margin of profit in the past year, higher prices paid to farmers and the increased cost of labor and materials are given by the company as reasons for the advance in the cost of milk.



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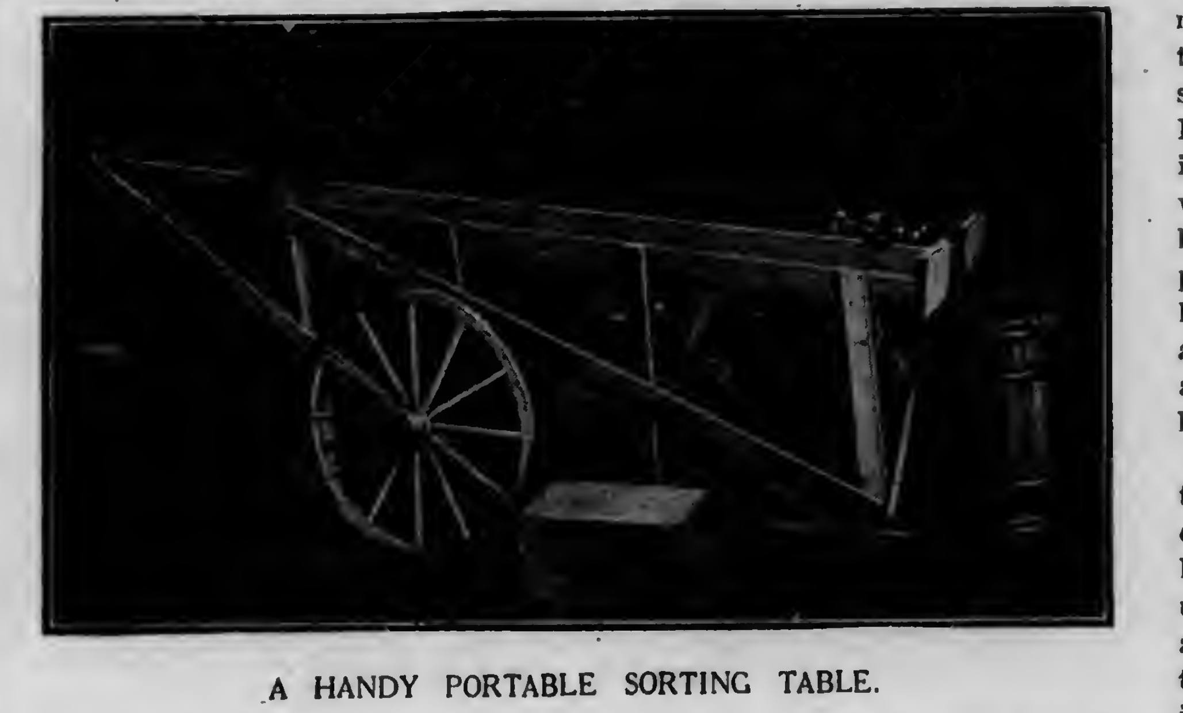
Horticulture

AN AUCTION FARCE

That peaches are a good buy when secured at the Fruit Exchange in a certain well-known peach county in northern Jersey, is the concensus of opinion of buyers who frequent this section each year during the peach season. The reason for the buyers' satisfation bears explanation.

The "Exchange", so-called, is merely an organization of local and distant buyers and is domiciled in a small shed just opposite the railroad station in a north Jersey town. The shed contains a platform upon which the auctioneer stands, and room enough inside for a desk at which purchases are recorded and credit slips passed to the growers as their peaches are sold.

On a certain day in September when the peach season in this north Jersey section was a little past its hight there were at one o'clock in the afternoon something over sixty wagons in line waiting for the auction to open at three o'clock. Some of these wagons had been in line for several hours before the auction opened. It would have been interesting to make a survey with the idea of computing approximately the amount of time and labor lost on the various farms represented by the men in line thru the long wait which they were compelled to undergo before the "Exchange" commenced operations. If they were rewarded with good profits in the end, their wait might have more to commend it. But that is another story.



A HANDY PORTABLE SORTING TABLE.

It took from one to five minutes for the auctioneer to dispose of the fruit brought in by each grower. Great diversity was shown in the different bids. For instance one farmer would receive say 75 cents a basket for some prime fruit. Possibly the next man in line whose fruit to all appearances was much the same kind and grade of fruit would receive as low as 50 cents a basket. Apparently it was a case of bowing to the whims of the buyers. Many times a grower had to endure open criticism of his product, jokes and even insults. One could not fail to notice the disappointed and discouraged looks on the faces of growers when their fruit went for a mere song. The faces of satisfied buyers were in sharp contrast. The grower was absolutely at the mercy of the buyers. While they may refuse bids if they so desire, growers hesitate to leave the Exchange without disposing of their peaches after they have had the long wait. Apparently they have the fear also that buyers will mark them and possibly boycott them, altho we do not know of an actual case of this sort.

Up to the time in question at least, the growers in this section had refused to consider a plan of certain helpful agencies to organize an association among themselves for the purpose of disposing of their product to greater advantage. They feared that present buyers at the Exchange would desert them and that their places would not be taken by others. An association of this sort would not only facilitate the handling of the fruit in large quantities and mean loss loss of time and greater profit to the growers but it would generate a feeling of competition and pride which would lead the farmers to take greater care in growing and harvesting and marketing their fruit. Eventually they would establish a reputation not only for their individual products but also for the peaches of the community as a whole.

About 4,000 baskets of peaches were marketed on the day in question. As high as 7,000 baskets have been shipped in one day from this point. Most of the buyers shipped their purchases by special freight which leaves the station at seven o'clock and arrives at destination a little before or after midnight. Inquiry in the various markets, notably Newark, about 1.30 A. M. of the day following the auction indicated that commission men were making good profits on the products bought in many cases at very low prices from the growers at the local exchange.

Only another instance in which cooperation of an intelligent sort would probably work wonders.—C. M. A.

UTILIZING WASTE SPACE

It is really surprising how much waste land is found on nearly every farm whether large or small. I don't mean swamps or stiff hillsides, but the fertile, little, odd spots that might better be used than not. People generally seem to regard their building spot as a place sacred either to rubbish or lawn, with apparently no regard whatever for economy of space. By economy, however, I don't mean running the potato patch across the lawn. My husband and I once drove past a very evidently inhabited house, which was surrounded on all sides by closely set rows of potatoes, broken only by the house itself, and with nothing to indicate that anyone ever came in or went out. I suppose somewhere between rows there must have been a footpath but we couldn't find it.

I should certainly have a lawn, the prettier the better, but even there I wouldn't object to a nice nut-bearing tree or two altho I have no such trees at present. Perhaps if I were not a widow with a tiny girl I should go in more for orchids, etc., but as it is I believe in combining beauty with utility wherever the two combine well. We hear much in these days about beautifying the back yard, and none approve more heartily than I, but very few backyards are as exquisite that their beauty would be in any way marred by the judicious planting of fruit trees. Indeed I would strongly recommend the planting of fruit trees as a means of beautifying places that would otherwise be occupied by weeds.

This article is not intended for the farmer with more acres than he can handle, altho even he might better raise some kind of trees—catalpas perhaps—than Buffalo clover. His problem is not my problem, however, and I mean this for people who are situated something as I am. I have a little less than five acres and of course expect it to produce all it can. My garden adjoins my lawn and both are enclosed by a woven wire fence. Across one end of the garden I planted pear trees last year. One side adjoins my apple orchard and the apple trees overhang the garden fence. The other side is next my lawn and I want that left free for flowers, parsley, or something in some measure decorative. The remaining end is next to the road and next spring I shall plant a row of quinces along that fence. I shall also plant grape vines around the garden part of the whole enclosure and allow the fence to support them.

Across the lawn from the garden is my driveway extending from the road to the back of the house and on either side of this I shall plant peach trees I can tuck in probably 25 trees here and in odd corners of my back yard, which will be infinitely more ornamental than burdocks. Here in western New York peaches are often a failure in exposed locations while they grow well and bear abundantly in protected spots, hence the advantage in having them near the buildings.

It has always been one of my pet theories that any one who owns a piece of land as big as a horse blanket should have plenty of strawberries for home use but most of us don't. Back in my apple orchard is a vacancy caused by the uprooting of about four neighboring trees. If I fill these vacancies with new trees the old ones will sap the fertility from the soil until the new ones will be starved but I have had the spot plowed and in the spring shall fertilize well and set at least 1,000 strawberry plants. Some one will probably suggest that the old trees will also starve the strawberries but I think not because my father-in-law had just such a berry patch which bore fruit in abundance for years. Between my orchard and road is a strip a little too narrow for another row of apple trees but plenty wide enough for four rows of cane berries. I had this fertilized, plowed, harrowed, and have planted red and black raspberries, blackberries, and gooseberries. The plants are doing finely and should be much more profitable than waste space.

I have about an acre of fall-plowed sod which will be set with cherries in the spring. As a cultivated crop between the trees, I shall try raising potatoes. This will insure constant cultivation of the newly-set trees, and the potatoes should pay for the labor, use of land, etc.

Our winters are so cold and our springs so late that we often have trouble using the space in our vegetable gardens more than once; when the early crop gets out of the way it is often too late to plant late crops, but next year I hope to overcome this difficulty to quite an extent by the use of a hotbed. In fact, gardening here without a hot bed can not possibly be wholly successful anyway, and with one I can't understand why it might not be possible to give the early stuff a sufficient start so that nearly all the garden can be used twice.

The question of utility is a vital one with people who own but a very small acreage and if we can so arrange our crops that we get the greatest possible results with the least expenditure of time, labor and money, then obviously we are increasing our relative profits.—E. M. A.

STEADY THERE, FRUIT GROWERS

The occupation of fruit growing is as old as husbandry. And before there was any husbandry wild fruits were eaten with relish. A habit that was centuries in forming is not likely to be abandoned thru a springtime and a summer.

This is the ground of the fruit grower's confidence today. He knows that the crops of the past have been consumed, and he confidently believes that the crops of the future will be demanded.

The casual remark that fruit is a luxury and, therefore, during war times will be in slack demand is not the assertion of the normal consumer. It is prompted by fear or self-interest. Of course there is room for argument, but eating habits will settle the question. Food may be reduced to calories and nutrition to chemical processes. The mechanical eater can subsist upon so many calories at so much per calory, but the hungry human specimen will demand victuals. Fruit is a part of the world's victuals and fruit will be demanded by the world.

The fruit crop is very short this year. It was short last year. Prices were highly satisfactory to growers as well as buyers. The condition of the crop this year at this season is about the same as last year, but the prospects for prices right now are more favorable. If there is any reason for disquiet among fruit growers it is that many growers will have so little fruit to market.—American Fruit Grower.

Timely Fruit Notes

By Dr. J. P. STEWART

Co-operative Peach Association

"I have purchased a farm and on it is a peach orchard with 1600 trees. As I am inexperienced I would appreciate if you will answer the few questions I may ask you. When do you spray? How often? What mixture of chemicals do you use for spraying and what quantities for the number of trees? When do you consider the proper time for picking? Any other information that you may impart will be appreciated. Should you have any literature pertaining to the culture of peaches, I would like you to send me whatever you may have.

"Do you know of any company or association, on the co-operative plan, that handles peaches exclusively or one that handles all fruits? If so, will you kindly give me the name and address of such company or association?" — E. C. B., Philadelphia County, Pa.

Replying to this inquiry, I would say that there is a large co-operative association organized to take care of the general Potomac Valley district and handles peaches and apples principally. You can get in touch with them by addressing Mr. H. S. Fulton, Sleepy Creek, W. Va., who, I believe, is the president of the association.

The necessary information in regard to spraying and other phases of peach culture will be found in Circulars 55 and 10, issued by the Pennsylvania State College.

Advisability of Sowing Alfalfa in the Spring

"In one part of my orchard where the soil is quite heavy and bakes somewhat during the dry season in August but has a few wet spots in the winter and spring, I would like to sow alfalfa and carry out the plan of mulching which you recommend.

"Do you think it would be advisable to sow this alflafa in the spring when the ground is in proper condition, instead of waiting for the usual time in August? We would of course expect to use lime." C. J. M., Mont. Co., Pa.

Alfalfa can be sown in late spring or preferably early summer just as well as later, if the ground has been kept thoroly tilled for some time previous so as to kill all the weeds. You would need inoculation and also a moderate coating of manure, in addition to the lime, if you desire best results. For the inoculation, 200 to 400 pounds of soil taken from an alfalfa field and applied on each acre is likely to be most satisfactory. It should be put on just at the time of seeding or very shortly after.

If you can get your soil into good condition by the middle of August this year, there is still time to make this seeding yet during the present season, if you prefer to do so. If the seed can be gotten in by the 20th of August, or thereabouts, you would still have ample time provided the weather is normal this fall.

SUNDAY ON THE FARM

We see no special difference between proper Sabbath day observance for farmers and for others except that farmers must care for stock on that day as well as on other days. We have Sunday school at 1 P. M., preaching service at 2 P. M., Epworth League at 8 P. M. because most farmers in our vicinity have chores to require considerable time in the morning, and most of the children help as soon as they are old enough. My little girl and my neighbors' children are so anxious to go to church and Sunday school with the rest of us that they are willing and glad to help in any way they can. The tots probably have a very hazy idea of worship but they do enjoy the music, the pretty flowers, the Sunday school classes, the pleasant teachers, the genial young pastor, and the many other little ones present. Here every one knows everybody and is glad to see every one else. We have three adult and three primary classes, all fully organized, and every child knows that maybe his or her class will be called upon for their class song, class verse, etc. The children like to sing, and the systematic calling out of some class every Sunday holds their interest.

We serve breakfast as on any other day, a Dutch coffee lunch at noon, and Sunday dinner as soon as convenient after church—usually about 5 P. M. This is planned on Saturday, and very little is done for it on Sunday. Personally, I like best to make for it a big dish of escalloped potatoes or a casserole dish of meat and vegetables. When the chores are done it is nearly time for League so our Sabbath is a full day.

Some farm families' practice of going to town to church and to a hotel for Sunday dinner would raise a storm of protest here. Where there is no country church and where for any good reason it would be impracticable to establish one, go to church in the nearest town, of course, but here we are devoted to our flourishing little country church. Here every one counts and is needed, but the big town or city church doesn't need us.

Again, is it right to shift the dinner work to the over-burdened shoulders of the hotel people? Both hostess and help in any hotel or boarding house that accommodates transients are invariably worked to the limit on Sundays because so many extras drop in for Sunday dinner. Should conscientious church goers help to swell the number?—Mrs. E. M. Anderson, Chautauqua Co., N. Y.

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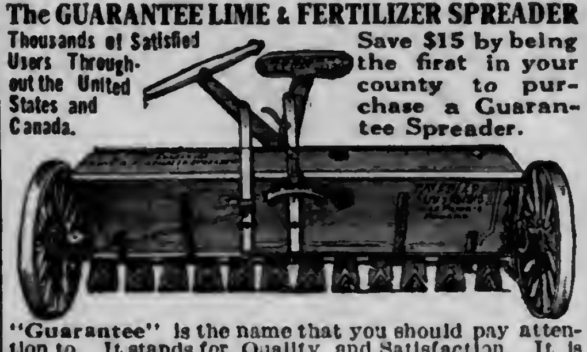

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The Voice of the People

We propose to reserve this department for the use of our readers to discuss all problems and matters of general interest. Write your views and comments briefly on any question of social, economic or educational importance and thus share them with others. It will be necessary to limit such articles to 200 or 300 words. Publication of an article in this department does not signify editorial endorsement.

THE FARMERS AND WAR PROBLEMS

I congratulate you on your stand for American farmers. I have been "doing my bit" in trying to bring out the plain facts that (1) farming is the poorest paid business in the United States; (2) farmers and farm laborers have left for the cities, and will continue to leave for the cities until they receive wages equal to those of city occupations, from ditch-digger to John D. Rockefeller who was born in my county; (3) England, France and Germany from the start of the war held down prices for the benefit of city people, with the result of low farm production, and semi-starvation; and (4) if this country wishes to have food it must expect to pay prices for it large enough to give farmers the same fair income guaranteed to ship builders or shell manufacturers, and to enable them to pay wages to their labor large enough to attract men from city occupations.

There are millions of farmers and farm laborers in the cities who would make efficient food producers for this year if they could be induced to go on the farm. Student labor, railroad labor and factory labor sent to the farm is of very little use in food production because most farm work is skilled labor only to be learned by years of experience. There is an abundant supply of such labor in the cities, and the only way to get it on the farm is to pay wages high enough to compete with city work.

No government agency can distinguish between the city man who is worth while to move to the farm and the bluffer who wants to get on the farm to escape military service or to find some new form of snap work. Only the experienced farmer can tell the value of a man for farm work. The key-note of practically all the efforts to get people to raise more food and to get student or other labor on the farm is only "cheap food". City consumers must realize that the day of cheap food passed away when the farmers went to the cities. Food was cheap because of over-production that starved farmers off the farm. Any city unskilled labor cannot produce food half as cheaply as skilled labor, either that of the farmer or that of the ex-farmer or farm-hand. But the only way to get this labor supply is to pay for it, by paying the farmers prices for food high enough to compete with city occupations.—Daniel Dean, Tioga Co., N. Y.

PROTECTING THE PEOPLE

You conclude your editorial "Patriotism and Peanut Politics" (issue of July 7) with these words: "We, the people, in a democratic-republic, generally get what we deserve."

In your editorial, you show that the old party leaders either exert a hypnotic influence over the voter's mind, or else the voter has no mind worth talking about. While it is true that the voters get what they deserve, it must also be admitted that the old party leader can only rise to, and maintain, leadership by giving the voters what they want.

In this democratic-republic the voters have little conception of fundamental principle, can not see above their own little, selfish interests, and give no thought or consideration to problems of collective interest. I used to think that this kind of voters only inhabited the slum districts of our large cities—where the potency of booze and "dough" have long been well attested in influencing their opinions—in other words, in buying their support on election day.

Any one who cares to investigate, however, will find that the political leaders and parties have to placate or buy other voters who occupy a much higher place in the social scale; so they have adopted a policy of protection which seems to work in good shape.

Some of these voters ask for protection against cheap goods, in other words, that the government will allow them to charge more for their goods than the goods are worth. There are others who ask for protection against certain reformers, who preach the absurd doctrine that God made the land for the use of all and that private ownership of land is a crime. There are others who ask for protection against tax assessors, who might attempt to keep his oath of office by rendering a full and true assessment of the voters holdings. There are others who ask protection against any policeman, or other official who do (on rare occasions) see where the law is being violated by rich and powerful individuals or corporations.

You see, Mr. Editor, that we all want protection and the politcal leader is wise enough to give us what we want, and that is the reason why democratic-republics always get what they deserve.

Even the Single Tax Party asks for protection. It would be protected against the election officers who refuse to count all the votes cast for its candidates; protection against the operators of the tariff bunco game; protection against the holders of idle land, who are engaged in the business of making this great, rich country, smaller and poorer as population increases; protection against a taxation system which treats the builder and improver just as our law courts treat the petty criminals, by imposing fines and penalties; protection against the individual poverty which continually keeps pace with our collective progress.—Oliver McKnight, Philadelphia Co., Pa.

NEEDED SCHOOL EQUIPMENT

I have just read your interesting article on Hot Lunches as they are served in Wisconsin's schools at the noon hour. I always read eagerly every article on schools as I am a teacher. They certainly do things in the West. But the question that came in my mind at once was this: Where do they get their water? Is every school in the county mentioned supplied with a good and ample supply of water during all of the school term? If so, then they are extremely fortunate. The battle is two-thirds fought in the matter of accomplishing anything like that.

WATER, THAT'S ALL—AND ALL THAT'S NEEDED.

I think our teachers here in the East are just as enthusiastic over their work as they are in any other section of the country. But I know of many that have been greatly hampered by the water question.

I have heard and know of a particular instance in which the teacher had to bargain with the pupils concerning wood and water. The teacher agreed to carry the water a distance of half a mile more or a little less from her home every day if the children would carry in the wood. I have heard of people living near schools refusing the water unless the teacher came for it herself. I know of other instances where nearby residents refused water altogether with the excuse that their well water was low. Other people dislike children to come for water on account of a little being slopped on well platform or walks. On the other hand, most children do not like nowadays to carry water a long distance especially if it takes up their recess period or a portion of their noon hour.

I have taught nine years in northeastern Pennsylvania and of those nine schools only three had the water within what might be called a reasonable distance of the school house and of those three only one had the water on the school ground where, in my opinion, it ought to be. The other six had it several rods away, far enough in some instances that it took the full recess to go and get back again and then no time was left for the children to get a drink unless the teacher allowed five minutes more of precious time.

With the millions appropriated by this state for educational matters and the heavy taxes that people pay, it seems that if some of the money were used in the right way we might have water on every school ground in the state, or within two hundred feet of the building proper. Then our teachers could accomplish something like our western friends are doing.

If the school is not to be allowed a cloth towel, the paper towels should be supplied by the school boards and placed where each pupil may get one if he needs it. If it is necessary to send little Mary or Johnny to wash her or his hands, it is as important that they should have something to use for a towel.

I have found it necessary to send five or six out to the wash basin at a time and the little fellows would have to use their sleeves, or else I would be compelled to offer them the blackboard cloth if they could not use their sleeves. And this system in a town with a population of about 17,000, and hiring sixty teachers to teach their boys and girls! No wonder infantile paralysis seized the children in its death grip last year here in the east.

Let the State Board of Education see to it that the proper laws are passed to furnish water on every school ground in the state; to see that paper cups and a case are furnished, and paper towels. Economy in some other way might be practiced for a few years now, for we have economized on part of this subject since the days of the venerable Thaddeus Stevens.

Let us hear from others on this subject.

THE INTERESTING ROBIN

The robin is so common that its interesting side is liable to pass by almost unnoticed. Lucky is the one, who, in common things, is able to find something of interest, and be able to study nature, and nation's doings. My children have a rabbit pen and several colonies of bees near a pear tree containing a robin's nest. She has lost much of her shyness by coming almost daily in contect with the children. A nest full of young has served to draw out her maternal instinct.

One day she was gathering worms two rods from the nest, when I told the boy to go near the nest and see what she would do. He had no more than approached it than she went with great swiftness to protect it. She came and sat near, and when he went away she followed, brushing his hat with her wings, much as she would fight a robber crow.—C. M. Drake.

We have observed that the fellow who never begins is even worse than the quitter. Both should be thrown into the discard.

Let us hope that too many citizens will not insist on saving the country in their own way or not at all.

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Fecundity is chiefly a condition of the reproductive organs of the fowl, and sterility is only associated with general physical weakness in a rather small percentage of cases. At least that has been the writer's experience. In fact, in a rather large number of flocks that I have observed, where this trouble has been had, the birds have been of very good size and in excellent health. In truth, there is really nothing in outward appearances that will give one an idea of the reproductive strength of the particular birds. This truth is the more strongly borne out by the numerous cases known to experienced poulrtymen where extraordinarily fine show specimens of apparent physical perfection, the production of generations of close breeding, have shown an exceedingly low average of fertility when bred, and in more than one case almost absolute sterility.

Of course, in some cases sterility is a condition of certain individual hens and it must be admitted that each individual hen will vary greatly in reproductive strength.

During the past year there has been a tendency on the part of breeders who use trap nests to keep a record of the fertility of each individual hen as well as her egg record, with a view to discarding all fowls of low reproductive power no matter what their egg record. This plan is commendable and is in fact the only safe way to continue close line breeding. But this will by no means prove a cureall for the trouble, as the elimination of sterile induividuals and the breeding from those of outstanding fecundity, while an excellent plan, can never overcome the trouble unless conditions of care are right. In other words sterility is due more to keeping the fowls under unnatural conditions than to any other cause.

The very first thing that the poultryman must realize in his endeavor to obtain high fertility in the hatching egg is that forced record egg production and high fertility cannot be combined. Conditions necessary to heavy egg production—close confinement, rich foods and heavy feeding will produce very poor results in hatching, and if the breeding birds are persistently cared for in this manner it will not be many generations before the fertility of the eggs will be so low as to make their incubation a costly proposition.

As an illustration of what artificial conditions will do I shall cite the case of a certain widely advertised egg farm of New Jersey. The name of this farm and of the owners was known to everyone interested in poultry, and their book published during the hight of their success was very widely read.

These poultrymen kept their mature fowls housed the year around in large flocks of from one thousand to fifteen hundred hens. The feeding was of the most forcing kind and the entire effort was for high egg production. All the hens were kept two years and hatching eggs were selected from the laying flock. None of the birds, either layers or breeders, were ever left out on the ground. The young stock was raised on free range, but at six months old they were taken into the laying houses and never allowed out again. The reason for the confinement was that greater egg production could be obtained and the labor greatly reduced.

The egg production was excellent, but after three years of this system the stock became to all intents and purposes sterile and that plant went out of business. From the standpoint of egg production the close confinement plan was a success but there it ended.

The peculiar part of this failure to most poultrymen was the fact that all the stock was apparently vigorous and in good health. However, as before mentioned, I have found this to be the case in the large majority of flocks where sterility has threatened. Outward appearances are no indication of the fowls' fecundity.

However, this does not mean that birds intended for use as breeders cannot be used as egg producers. Most successful farms overcome the difficulty by using the pullets the first winter for egg production and then allowing the best of these birds free range for the summer, using them in the second year for breeding. The first year, close confinement and rather heavy feeding may be practiced to secure egg production, but the second winter, when used for breeding purposes, free range is allowed and no great effort made to force production.

This is the only safe method of obtaining both egg production and new stock from the same birds. The summer of free range allows the flock to recuperate from the strain of heavy production and close confinement. Then by feeding differently and allowing free range thruout the next winter and spring of hatching a high percentage of fertility is obtained tho egg production will be considerably less. Most farms practicing this method also find that while large flocks are well enough for egg production they are not conducive to fertility and that the small flock is best for breeding.

The next thing to be considered is the breeding of the birds. Inbreeding absolutely must be avoided if the flock is to continue to produce eggs of a high average of fertility. Line breeding may be practiced in moderation where the poultryman has a thoro understanding of it, but even then it is better for the commercial farm to practice out breeding, introducing the new blood thru a few selected individuals of the home flock and then selecting from this cross the males to mate with the main flock of breeders. In this manner the dangers of introducing absolutely foreign blood are avoided.

Flocks that have decreased in fecundity yearly for a number of years by reason of close breeding or generations of close confinement and heavy feeding can rarely be brought back thru corrected conditions. The reproductive powers of such stock has been permanently impaired and the only way out is to restock the plant. However, serious consequences can be avoided in every case if conditions are corrected at the first sign of trouble.—J. Raymond Kessler, Chester Co., Pa.

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SELBY PRODUCE CO., PHILADELPHIA.

Canning Season Helps

Timely Hints Suggesting New Ways and New Products

Tomato Paste

Cans are costly, therefore make tomato paste instead of canning all your crop of tomatoes. Tomato paste is a concentrated form, available for use in soups, sauces and in combination with beans, macaroni and spaghetti. Every European knows tomato paste and the U. S. Army in France will use a lot of it this winter, because it furnishes tomato in compact form. The advantage of this concentrated form when jars are scarce is clear—odd bottles may be used for the paste, corked and sealed with sealing wax.

Directions for Making. — Cook tomatoes until soft enough to sieve out the seeds, then add per 1 quart of this strained tomato pulp, one slice of onion, 4 tablespoonfuls chopped sweet red pepper, or one teaspoonful of paprika, ½ teaspoonful of salt, 1 teaspoonful sugar, and 1 tablespoonful of mixed spices tied in a bag.

Cook this mixture until thick enough to hold the shape of a spoon when dipped out by the spoonful. When it gets pretty well cooked down, in order to prevent scorching it is well to finish the cooking in a double cooker or any contrivance that will afford a similar waterbath. Pack hot into freshly scalded bottles, cork and seal. The sealing can be easily managed if the cork is forced down below the edge of the neck and the top surface sealed with sealing wax or paraffin.

Bottle Fruit Juices Now

Nothing seems quite so hot as jelly making, and it will be a relief to bottle fruit juices now to be made into jellies in winter as needed, and when there is cash to spare for sugar, and more time for the work.

There are several uses to which this bottled fruit juice may be put. It makes delightful drinks or fruit punches, which when served with plain sponge cake make a delicate dessert or refreshment for small gatherings. Then, too, the fruit juice may be used in winter sauces or added to dried fruits in making preserves.

Fruit Syrups or "Honeys".—Children will appreciate fruit syrups or "honeys", with their delicate flavor. These syrups are made by cooking the juice with sugar until it is as thick as maple syrup. Apples and pears too defective for preserving, or cores and peelings left from preserving may be used for making fruit juice. Or the juice may be evaporated to a syrup without sugar, and used as sauce for breakfast cakes.

In preparing the juice for bottling, proceed as for jelly. When juice is extracted heat it almost to boiling, and pour into a small-necked bottle. The bottle and cork should be taken from boiling water in which it has been for half an hour. Drain, pour in the hot juice, cork with sterile cork and coat with sealing wax or hot paraffin.

Juices extracted from berries or grapes will be found particularly good for drinks and sauces, while apple, pear and peach juices make agreeably flavored syrups. Apples and pears with an individual flavor should be selected for this purpose.—U. S. Food Conservation Bureau.

To Can Huckleberries

Assort and wash thoroly, pack into cans sterilized, along with their covers, by boiling 15 minutes. Fill up with hot syrup made by cooking 1 cup sugar per 3 cups water until it "hairs". Put on the rubbers, then the covers loosely, lower into boiling water in a wash-boiler or large kettle with tight cover, that has a wire or wood-slat false bottom that will raise the cans an inch from the bottom of the boiler; have the water cover the cans at least an inch. Boil steadily for 16 minutes, then immediately lift out the cans and tighten covers, invert to test the seal, and let stand until cool. If no juice oozes out, your seal is tight. If not tight, the trouble may be a bent cover rim or insufficient rubber cushion, in which case adding a second rubber will usually effect a seal. But if you remove the cover to get on another rubber, you must return the can to the boiler to sterilize any mold or ferment spores that will likely have settled into the can while open.—H. M.

Plum Canning Ideas

I wonder if all our Pennsylvania Farmer sisters know the value of plums at canning time. Many people do not care much for plums canned by themselves as they are so tart that when sweetened sufficiently they are too strong. We have found that a good way of canning plums is to cook them partly, then turn off the juice, pack them into cans with a syrup and finish cooking by the cold-pack or boiler method. The poured-off juice makes fine jelly, and the plums do not require so much sugar and are more delicate in flavor.

But the way they are most valuable is to use with other fruits, especially blackberries and elderberries. Try putting 8 to 12 plums into each can of these berries and notice what a good new flavor you get. The plums give just the tart necessary to make these berries rich and delicious. Try this plan also with other fruits, combining a very tart one with a mild one, such as dried peaches and pears cooked together. You will have a much better and a different sauce than either cooked alone.—Miss Delmar, Crawford Co., Penna.

To Can Plums by Cold-Pack Method. —Plums should be plunged into boiling water for one minute, then dipped in cold water. The skin of each plum should be pricked in a couple of places to prevent bursting during the cooking process. The plums may then be packed in the hot, sterilized jars. These jars and covers should previously have been boiled for 15 minutes to make sure that they are sterilized clean. The jars are then filled brimming full of hot syrup made by boiling 1 cup sugar per 3 cups water until it "hairs". A new rubber boiled three minutes is placed on each jar. The cover is placed in position, and if the glass top jar is used the top clamp only is placed in position; if the screw top jar is used, the cover is screwed barely firm against the rubber, then loosened about ¼ inch so as to allow for the escape of steam. These jars are then sunk into the boiling water that should be one inch deeper than the jars. The jars are allowed to boil for 12 minutes, then removed and tightened at once. When fruit is cooked in the jar rather than in an open kettle the flavor remains in the fruit. A wire rack should be used in the bottom of the vessel containing the boiling water. A wash boiler or a large kettle may be used.

Combining Fruits

A favorite dish with us, and good with meats is peaches and apples. Pare equal quantities of each; tart apples and yellow peaches make a pleasing color, altho white ones are as good. Cut them in quarters or eighths, depending on the size, sweeten to taste, adding a very little water to start cooking; cover until the juice boils up, then remove cover, and cook very slowly until tender. Serve warm or cold, sprinkled with cinnamon or not as desired. Canned peaches may be used with apples this way next winter.

Raspberries and black sweet cherries canned together make a fine dessert or pie; they also make delicious butter or preserves. Raspberries and seeded sour cherries are fine for butter, and make excellent pies. Sour cherries and sweet cherries combined are also fine for butter and pies.

Quinces and sweet apples, and quinces and pears quartered and canned together are excellent, making the quince flavor somewhat more delicate.

Equal quantities of each fruit are used in the above combinations.—Mary A. Kintigh, Westmoreland Co., Pa.

GOOD SUMMER EATING

Cooking Eggplant

The eggplant must be firm—a soft one will take longer to fry and will not be nearly so crisp. About an hour before the meal, peel the rind off as thin as possible and slice the plant in one-eighth-inch slices. If they are thicker they will be soggy. Lay them out flat upon a board and sprinkle with salt, seeing that each piece receives its share. Little white drops of moisture will appear on them and roll off. If there is a quantity of the vegetables to be fried the pieces may be laid on top of each other if each is well sprinkled with the salt. Let them stand at least 15 minutes, then drain off the water, and dip each piece in beaten egg, then in cracker dust, and fry in deep hot fat. It is most important that the fat be hot else it will make the eggplant soak grease. As lifted from the fat, lay each piece to drain on brown paper over a plate. The slices should be crisp and a delicate brown on both sides. It should be eaten right away.—E. P. L.

Made With Apple Sauce

Apple Custard Pie.—Make a smooth apple sauce by putting it thru a colander. To each cup of sauce add 2 eggs, beaten light, and ½ cup rich sweet milk, with sugar and flavoring to taste. Have pie-shells ready, fill with the custard and bake with no upper crust. The white of one egg may be reserved for a meringue, if desired.

Apple Sauce Cake Without Eggs or Milk.—Cream together 1 cup of sugar and ½ cup butter. Dissolve 1 teaspoonful of soda in a little hot water and stir this in 1 cup of sour apple sauce, letting it foam over into the mixing-bowl. Add 1¾ cups flour sifted with 1 teaspoonful of cinnamon and ½ teaspoonful each of cloves and nutmeg. Mix thoroly, then add 1 cup raisins. Bake in a loaf about 45 minutes.—Maggie A. Cromlich, Cumberland Co., Pa.

Cake and Mayonnaise from Same Eggs

I have a plain old-fashioned recipe called French cake, which has been in our family for generations. I like it because I have learned to alter it to suit several emergencies. For example, tomorrow I shall need mayonnaise, so I shall use the whites of 3 eggs for the cake instead of 4 whole eggs, as the recipe calls for, then I will have the yolks for the mayonnaise. I will blend well together ½ cup of shortening (half lard and half butter) and 1¾ cups sugar, then add 1 cup whole milk, then 3 level cups flour, into which I have sifted 3 level teaspoons baking powder and a pinch of salt. Lastly I add ½ teaspoon vanilla extract. I mix this smooth and bake in three large layer cake pans, the bottoms being covered with greased and floured papers. Ice or not, as you like. (Editor's Note. — Since we can save sugar to a considerable extent by doing without icing on cakes, it is a good plan to do so.) Two of these layers make a fairly good-sized cake for Sunday, leaving the other layer for later use.

Cooked Mayonnaise. — Now for the mayonnaise. Put 1 pint of vinegar to heat in an agate pan, having added 1 cup of sugar and a dash of salt and pepper. In a bowl beat the 4 egg yolks; in another bowl put 2 heaping teaspoons flour, ½ teaspoon mustard, a little pinch of turmeric, and blend together with cold water; then mix this with the egg yolk, pour gradually into the hot vinegar and cook until smooth, stirring as it cooks. Pour into a glass jar; it will keep a long time. When wanted for salad, thin with sweet cream, and you have a good imitation of oil mayonnaise.

Mayonnaise without Eggs.—Do you know that when eggs are scarce, one can make excellent mock mayonnaise by using part cornstarch instead of flour, and enough turmeric to give the egg yellow color? This dressing is quickly made, and is good either hot or cold. —Mrs. Mary S. Shuman, Juniata Co., Penna.

Novelty Salad with Nasturtiums

A delicious salad can be made with nasturtiums as follows: Select tender leaves and wash them carefully. Beat 2 eggs until light, add ½ cup vinegar, ¾ cup cream, 2 teaspoonfuls sugar, salt and pepper to taste. Cut some bacon into small cubes and fry until the fat starts, then stir in the dressing mixture and let it just come to a boil. When cool mix the dressing into the nasturtium leaves. A few nasturtium green seed pods give it extra flavor. Garnish the dish with nasturtium flowers, and the effect is admirable. — A. L. R., Philadelphia County, Pa.

Plants die from the lack of sunshine. Drive those clouds away that enter your heart and let in the sunshine.

—

Start experiments today on changing food habits—it may mean better health, too.

—

The sooner into the can, the fresher the taste next winter.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

2099.—Easy to Make and Comfortable.—There is the underarm seam, the back seam or closing (as you may prefer it), and the neck and shoulder finish—a simple hem, the belt stitched to position, and the dress is done. Pattern is cut in 4 sizes: 2, 4, 6 and 8 years. It requires 1¼ yards of 27-inch material for a 6-year size. Price, 10 cents.

1945.—Child's Set of Short Clothes. —Comprises a simple dress with round yoke, and long or short sleeves, a style of drawers, comfortable and practical, and a slip with added skirt portion at the back and with or without ruffle. Pattern is cut in 5 sizes: 6 months, 1 year, 2 years, 3 years and 4 years. It will require for the dress, 2⅝ yards of 36-inch material. For the drawers, ¾ yard. For the slip, 1⅛ yards, for a 2-year size. Price, 10 cents.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Aug. 13, 1917.

Shipments of potatoes from the various producing centers were comparatively light during the past week and altho the demand has been a trifle slow, a steady market has been maintained. Receipts of wagon potatoes from Jersey are selling at 60 to 70 cents per ⅝-bushel basket for first grades and 30 to 40 cents for second size stock. Bulk shipments of Jersey potatoes are selling at $1.20 to $1.35 per bushel on first grades. Eastern shore potatoes are arriving in good condition and first quality stock is selling principally at $3 to $3.50 per barrel and second grades at $1.75 to $2.25 per barrel. Delaware and Maryland shipments are about on a par with Eastern Shore of Virginia stock and selling at the same prices.

North Carolina sweet potatoes are showing good quality and are meeting with a strong demand. First grade sweets are selling at $6.50 to $7.50 per bushel, with a few fancy grades selling at $8 a barrel. Second size sweets sell readily at $3.50 to $4 per barrel.

Vegetables

Sugar corn is in good demand and the market is being cleaned up daily. Pennsylvania sugar corn is showing a wide range of quality and much of the offerings are second pullings. Good grades are selling at $1 to $1.50 per hundred ears. Jersey corn is selling at 40 to 50 cents per ⅝-bushel basket for the better grades. The heavy glut of cabbage has passed and receipts are somewhat lighter. The market is steady at 25 to 30 cents per ⅝-bushel basket. Cucumbers are in good demand and the smaller size stock is selling at 50 to 60 cents per ⅝-bushel basket.

Lima beans are in liberal supply but the market is strong at 75 to 85 cents per basket. Green beans when young and tender sell readily at 30 to 40 cents per ⅝-bushel basket but older and less attractive stock is moving slowly. Wax beans free from spots are in light supply and the market is firm at 50 to 60 cents per ⅝-bushel basket.

The heavy supply of tomatoes is of a wide range in quality and therefore in prices. Canners are using up the poorer quality stock at 10 to 15 cents per basket and better grades are selling up to 30 and 40 cents per ⅝-bushel basket. Receipts of peppers are running light and the market is steady at 50 to 60 cents per ⅝-bushel basket.

Fruits

Jersey apples are showing a wide range of quality and there are a great number of varieties offered. Fancy hand-picked apples are meeting with good demand and the market is strong on first quality eating apples. Williams Early Reds are in strong demand and selling at 75 to 90 cents per ⅝-bushel basket. Yellow Transparent and Orange Pippins are popular varieties and are movings are popular for general culinary use and lows are good sellers at 65 to 75 cents per basket and Wealthy at 60 to 70 cents. Greening are popular for general culinary use and sell readily at 35 to 45 cents per basket. Windfall apples are in slight request and sell at just about half the price quoted above on hand-picked stock of the same varieties.

The early varieties of the Jersey peaches do not attract the buyers very strongly after they have been supplied with the fancy Georgia varieties of free-stone fruit. Jersey Carmens are now arriving and when showing color and size they are bringing from $1 to $1.50 per crate. Smaller and poorly colored Carmens are moving slowly at 40 to 60 cents per half-bushel basket. A few Mountain Rose peaches are now offered and these are selling at 60 to 75 cents per basket.

Cantaloupes are offered from New Jersey and the northern sections of Delaware and Maryland. Practically all of this stock is showing good quality and condition. Sales are ranging from 60 to 75 cents per ⅝-bushel basket on the best stock and at 40 cents for smaller grades of Jersey cantaloupes. Maryland standard crates are selling principally at 75 cents to $1 per crate. Shippers of cantaloupes from Northern California defy the competition of near-by sections and their stock maintains a comparatively high average price. Standard crates of California cantaloupes are selling at $3.25 to $3.50; pony crates at $2 to $2.25 and the flat crates at $1.25 per crate.

North Carolina and Delaware are making light shipments of grapes which are meeting with a strong demand. Packed in 8-pound baskets this stock is selling at $1.25 to $1.50 per basket. Plums from Delaware and Maryland are in fair request at 65 to 90 cents per basket.

Poultry

Supplies of desirable size and quality are running light with the market firm on fancy fowl at 22 to 24 cents per pound. Choice fowl of lighter weights sold at 17 to 20 cents per pound. Roosters continue steady at 16 to 17 cents per pound. Plump, yellow-skin spring chickens averaging 1½ to 2 pounds apiece are selling at 28 to 30 cents per pound; smaller weights at 25 to 27 cents. White Leghorns are selling with good demand at a range of 22 to 25 cents per pound. Live ducks are selling at 17 to 19 cents per pound.

The market on fancy dressed fowl is holding firm and the trade is quickly absorbing the limited offerings of fancy stock. Fresh-killed fowl averaging 5 pounds apiece sold at 26 cents per pound; weighing 4 to 4½ pounds apiece at 25 to 25½ cents; weighing 3½ to 4½ pounds at 24 cents. Jersey broilers weighing 1½ to 2 pounds apiece are in strong demand at 32 to 36 cents per pound; other near-by broilers are selling at 25 to 30 cents. The few western turkeys arriving on this market were sold at 22 to 24 cents per pound for the best grades. Spring ducks are in good demand at 21 to 22 cents per pound.

Eggs

Receipts of strictly fresh new laid eggs are very limited and the market is quite active on desirable stock. Nearby firsts are selling at 38 cents per dozen; nearby current receipts at 37 cents, and nearby seconds at 32½ to 33½ cents.

—Selmarad.

YORK PRODUCE MARKET

York, Pa., Aug. 13, 1917.

The time of year has come when large quantities of produce have to be sold at a loss or be allowed to go to waste. After the markets are over one can see lots of stuff that has to be taken home as it cannot be sold at any price. Potatoes, cabbage, apples and beans are very low. The outlook for the county-potato crop is not good; this with the price they are selling for is knocking some of the patriotism out of the farmers.

Eggs.—35@36c per dozen.

Butter.—Country, 38@40c lb; separator, 40@45c lb. Milk, 8c qt.

Poultry.—Hens, 19@21c lb. Springers, 22@24c lb; dressed, 75c@$1.50 each.

Vegetables. — Potatoes, 12@15c ½-pk. Cabbage, 1@3c hd. Lettuce, 3@5c hd. Beets, 3c bch. Radishes, 5c bch. Onions, 5c bch; 20c ½ pk. Lima beans, new, 30@35c qt. Soup beans, 35c qt. Celery, 5@10c. Tomatoes, 10c bx; 10@15c ½-pk. Peas, 20c ½-pk. Beans, 10c ½-pk. Asparagus, 10c bch. Rhubarb, 5c bch. Turnips, 15@20c ½-pk. Corn, 15@28c per doz. Eggplant, 8@10c each.

Fruit. — Apples, 8@25c ½-pk. Blackberries, 9@12c bx. Plums, 5@12c bx. Peaches, 5@15c bx; 10@30c ½-pk. Cantaloupes, 3@8c each. Watermelons, 15@35c each.

Retail Grain Market.—Wheat, $2.40; corn, $2.40; oats, $1.10; rye, $1.75; bran, $1.35 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $2.14; corn, $2.10; oats, 93c; rye, $1.45; bran, $41 ton; middlings, $58 ton.

LANCASTER PRODUCE

Lancaster, Pa., Aug. 13, 1917.

Prices were lower today than on any other day in the past six months, and in addition to every stall being occupied in market, the curb market was one of the largest in history. Tomatoes, peaches, corn, and apples ruled the day. There was a brisk demand for everything. Tomatoes brought from 50 to 60 cents a basket, with indications of lower prices next week. Farmers continued to hold potatoes for $1.30 a bushel. The supply of eggs was equal to the demand and last week's prices ruled.

Butter and Eggs.—Butter, creamery, 48c per lb; do., country, 45c; eggs, fresh, 35@36c per dozen.

Live and Dressed Poultry. — Chickens, dressed, old, $1@1.25; do., dressed, young, 75c@$1; do., live, $1.50@2 per pair; do., old, 18c per lb.

Vegetables and Fruits.—Corn, 10@20c dozen; new beans, 8@10c ½-pk; lima beans, 10c pt; squash, 4@5c; beets, 5c bunch; lettuce, 5@12c head; onions, 5c dry box; cauliflower, 15@20c hd; eggplant, 5@10c each; pickles, 40@60c per 100; cabbage, 2@8c; sweet potatoes, 30c per ½-pk; potatoes, $1@1.30 bu; do., 12@18c ½-pk; carrots, 5c bunch; new turnips, 5@10c ½-pk; tomatoes, 15c ½-pk; do., 50@60c basket; apples, 10@20c ½-pk; watermelons, 25@35c each; peaches, 10@12c ½-pk; pears, 15c ½-pk; huckleberries, 15c qt; blackberries, 10@12c; cantaloupes, 3@8c each.

County Butchering.—Bacon, sliced, 40c lb.; do., whole, 30c; dried beef, 12c ½-lb; ham sliced, 32c; do., whole, 28c; calves liver, 30c; beef liver, 16c; fresh sausage, 24c; veal, boiling, 18@20c; do., steak, 32@35c; do., rib roast, 32c; beef, chuck roast, 22@24c; do., round steak, 25c; do., sirloin, 28@30c; porterhouse, 30c; lamb chops, 25c; do., leg, 20c; shoulder, 30@35c; pork roast, 30c.

Grain Market.—Milling wheat, $2.10 per bu; damp wheat, $1.85; corn, $1.95; corn, $2; rye, $1.82; timothy hay, $18@19 per ton; mixed hay, $16@18; wheat straw, $11@12.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., Aug. 13, 1917.

Receipts for week ending Saturday evening August 11, 1917:

	Beef Cattle	Sheep and Lambs	Hogs
Total for week ...	3,070	6,474	4,718
Previous week ...	3,082	5,905	6,096

Calves.—Total for the week, 2,498; previous week, 2,119.

Beef Cattle.—Demand was fairly active and the market ruled firm and higher, with offerings only moderate.

Steers.—Extras, higher; good to choice, $12.25@12.75; fair to good, $11@12; light and common, $9.75@11; milk cows, $75@120; bulls, $7.25@9.25; cows, fat, per lb., 7¾@8¾c; fair, per lb., 2½@5c; ordinary per lb., 5@6¼c; bolognas, per lb., 2½@5c; calves, exceptional lots, $15@15.50; good to choice, $12.50@14.50; medium, $10@11.50; common, $7@8; Tennessee and southerns, $8@11.

Sheep and Lambs.—There was a good inquiry for both sheep and lambs of fine quality and the market ruled firm and a shade higher.

Sheep. — Wethers, extra, $10.50@11; choice, $9.50@10; good, $8.50@9; medium, $6.50@7.50; common, $3@5. Ewes, heavy fat, $8@9. Lambs.—Extras, $15@15.25; fair to good, $14@14.50; common, $9.50@11.50.

Hogs.—The market ruled steady under moderate offerings and a fair demand. Quotations: Best western, $15.75@16; lights, $14.50@15; roughs, $13@14.

City Dressed Stock.—Demand was fairly active and the market ruled firm under moderate offerings.

Steers, 16½@19c; heifers, 14@17c; cows, 11@15c; calves, 20@21c; southerns and barnyards, 13@16c; country dressed, 18c; extras, 19c; sheep, 21c; extras, 22c; lambs, 24c; extras, 25c; hogs, 22c.

LANCASTER LIVE STOCK

Lancaster, Pa., Aug. 13, 1917.

(Reported by McClain Commission Co.)

The receipts of cattle for today's market were 77 cars as compared with 102 cars last Monday and 168 cars the corresponding Monday last year. Today's supply came from the following: Virginia, 42 cars; Chicago, 20; Pennsylvania, 4; Pittsburgh, 3; St. Paul, 2; Indianapolis, 2; New York, 2; Ohio, 1; Indiana, 1.

There was an excellent demand for everything in the butcher cattle line that had flesh and fat, at prices 50 to 75 cents higher than last Monday. In fact, some sales looked $1 per cwt. higher. The best load of steers on sale came from Virginia. They were pretty good killers, weighing 1,137 lbs., and the price was 12 cents. Another car of from the same place weighed 1,100 lbs. and sold at $11.70. One car of Chicago steers that had fair kill to them, weighed 1,150 and sold at $11.60. Another car of the same kind, from the same place, weighed 1,080 and sold at $11.50. One car of strictly good spayed Virginia heifers, weighing 965 lbs., sold at 12 cents per lb. Another car of handy Virginia heifers weighed 920 and sold at $10.60, and another car that weighed 820, sold at $10.40. Several cars of fair killers that came from Chicago, weighing 1,080 to 1,150 sold at $11.15 to $11.40. A few cars of good quality Virginia steers that didn't carry very much fat, weighed 1,050 lbs. and sold at $11.25 to $22.40. One car of plain Virginia steers weighing 960 lbs. that had some fat on them, sold at $10.45. One bunch of fat Virginia oxen averaging 1,350 lbs. sold at $9.75. Another bunch, fat but not so well-fleshed, sold at $9.25. Several bunches of Virginia oxen that did not have a whole lot of kill to them, weighed 1,300 lbs., sold at $8 to $8.50. The "shelly" kind weighing 1,000 to 1,200 lbs., sold at $7 to $7.50.

One car of good fat Virginia cows weighed 1,100 lbs. and sold at 8½ cents. There was quite a good supply of plain heifers for slaughtering purposes weighing 600 to 800 lbs. The best of them sold at 7½ to 8 cents. The commonest of them weighed 600 and sold at $6.50 to $6.75.

The supply of stockers and feeders was much less than a week ago. There wasn't anything good on sale and there wasn't much "fever" in the demand. The best were a fair kind weighing 700 to 750 lbs. and they sold at $7.50 to $8. The plain light weights weren't much inquired for, and prices were lower. Weights ranged from 400 to 600 lbs., and prices from $6.40 to $7 per cwt. Stock bulls were in very light supply and anything that had good quality sold readily and at high prices. A few real good stock bulls sold at $8.75 to $9. The kind ordinarily called good sold at $8.25 to $8.50. A pretty good kind found takers at 8 cents; a fair kind at $7.75, and it didn't seem to matter much how common they were to fetch $7.50.

Western markets during the past week have shown a big falling-off in receipts, not only of cattle for killing purposes but stockers and feeders as well. For several weeks previous to last week, high temperatures and hot winds burned Western pastures and promised much damage to the growing corn. Holders of cattle got scared and "dumped" them on the market. Later, good rains came and the whole situation changed. Pastures were revived; the threatened destruction averted; shipments to market ceased and prices stiffened up and went back to what they were early in July.

Today, beef cattle made a new high record in the Chicago market, several cars selling at $14.65 and a great number of cattle fetching 14 cents and upward. In an article written two months ago, the writer suggested 15-cent cattle during the summer months, and his prediction was ridiculed by some of the "Know it Alls". Today's happening in the Chicago market indicates that his prophecy is not likely to turn out to be "Barren, Intellectual Recreation". The writer proposes to again essay the role of a "Prophet," and foretell that if the price of corn continues at $2 a bushel and upward, 15 cents per pound will not begin to cover the price of corn-fed beef, within the next six months.

The average consumer no doubt fails to understand that with corn at $2 a bushel and hay at $18 per ton, (and that's what hay promises to sell at), and cottonseed meal or bran at from $50 to $60 per ton, corn-fed beef will cost 16 cents per lb to produce, and it will likewise cost 16 cents per lb. to produce pork, for that matter, and no better evidence of that fact can be found than that pork is selling at more than 17 cents per lb. live weight, at the present time. The beef situation promises to be a serious one and it may come to pass that porterhouse steak and rib roast will find classification in the price list with "Canvass Back Duck" and "Terrapin."

A good quality feeding steer, weighing 1,000 pounds, will likely cost the farmer this fall from 9 to 10 cents per pound. As a basis of calculation, let us say 9½ cents per pound, which will mean $95. When in the course of a seven- or eight-month's feed, he puts into the animal 45 bushels of corn at $2 per bushel, 1½ tons of hay at $18 per ton and one-third of a ton of bran or cottonseed meal at $54 per ton (cottonseed is $54 per ton now), he will have invested the first cost of the steer $90, plus $90 worth of corn, $27 worth of hay and $18 worth of cottonseed meal or a grand total of $225. The average maximum weight produced from such a quantity of feed plus shredded fodder, etc., is 400 pounds, making the steer when fed out and ready for the market weigh 1,400 pounds; and these 1400 pounds will have cost the farmer $225, or a cost per pound of 16 cents. This includes no cost of the labor involved in caring for the animal, to offset which, however, the farmer has the manure. Heretofore when farm labor cost one-third to one-half what it does today, the calculation was to balance the hay, the corn fodder and the labor against the value of the manure but present day conditions make necessary a revision of the old methods of estimating.

The prospects of having to get an advance of $5 to $6 per cwt. does not furnish a strong stimulus to farmers to feed cattle this winter when the top notch price paid for the best cattle in Eastern Pennsylvania this spring, when the crop was marketed, was 13 cents per pound and only a few bunches at that. Most of our good 1,300- to 1,500-pound prime winter-fed cattle sold at 12 to 12½ cents per pound and everybody thought these prices were extremely high. "We can't have the cake and eat it too". If we want beef to be no higher than it was in Eastern Pennsylvania during the first six months of 1917, corn must come down a whole lot from its present price. If it doesn't, the result, after the grass season is done, will surely be prohibitive prices to all but the rich and the highest earning wage workers.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Aug. 13, 1917.

Baled Hay and Straw.—Receipts, 132 tons of hay and two cars of straw. There was not much doing in hay and prices of the medium and low grades were slightly easier. Straw was firmly held, but quiet.

Timothy hay, No. 1 large bales, $20.50@21; No. 1 small bales, $20.50@21; No. 2, $17.50@18.50; No. 3, $15.50@16.50; sample, $10@11. Clover-mixed hay—Light mixed, $17.50@18.50; No. 1 do., $16.50@17.50; No. 2 do., $14.50@15.50.

Straw.—No. 1 straight rye, $13@13.50; No. 2 do., $12@12.50; No. 1 tangled rye, $12@12.50; No. 2, do., $11@11.50; No. 1 wheat straw, $11.50@12; No. 2, do., $10.50@11; No. 1 oat straw, $11.50@12; No. 2 do., $10@10.50.

Note.—It is hard to determine the exact total of hay for the local trade coming to this market, as a considerable quantity of the arrivals is probably for export.

Bran.—There was little trading and prices were without important change. Car lots, including sacks:

Soft winter bran, in 100-lb. sacks, per ton, $41; spring bran, in 100-lb. sacks, per ton, $40.

NEW YORK HAY AND GRAIN

New York City, Aug. 13, 1917.

Feed.—Western feed in transit is being offered more freely, and sellers are reducing their price to attract buyers. The demand, however, continues very slow, as buyers are expecting further reductions. Prices on the spot are steadier than they are to arrive, but some reductions have been made.

Western spring in 100-pound sacks, $37.50; standard middling, $40; flour in 100-pound sacks, $56 to arrive; red dog to arrive, in 100-pound sacks, $64. City feed bulk bran, $38; 100-pound sacks, $40; heavy feed, 100-pound sacks, $53; red dog, $67; flour, $66. Linseed oil meal, $55.50 per ton.

Hay and Straw.—There is no change in the situation today. Offerings are light at all harbor points but demand is also of small volume. The tone is firm on top No. 2 and No. 1 timothy hay in both large bales and small bales, but the medium and low grades are slow sale and in buyers' favor. Further arrivals of low grade hay by river boats this week which has been pressed for sale, and some business has been reported down to $9, in some cases even lower for poor trashy stuff. Rye straw about steady.

NEW YORK MILK MARKET

New York City, Aug. 13, 1917.

The demand fell off last week owing to the cooler weather, but receipts reflect the abnormal demand created by the hot wave of the previous week. The average demand, certain dealers assert, has fallen below what might ordinarily be expected for this season of the year to the extent of from 5 to 10 percent. The marked advance in retail price is stated to be the cause. Hotels, confectioners and stores retailing from the can are reported to be feeling this shrinkage chiefly. Dealers think, also, were it not for the absorption of a considerable quantity of milk products, there would be an abnormal surplus difficult to handle, because there are indications that the unusual price paid to the producer is stimulating production.

The League rates for August to the producer of Grade B (barn score 55) in the 26-cent zone are $2.55 a hundred for 3 percent milk; $2.76, or 5.86 cents a quart, for 3.6 percent milk and $2.90 for 4 percent milk. The receipts of milk and cream in 40-quart cans for the week ending August 11 were as follows:

Railroad	Milk	Cream
Erie	44,441	3,831
Susquehanna	4,266	22
West Shore	13,543	2,356
Lackawanna	68,690	3,875
N. Y. Central (long haul). including Rutland	153,396	4,696
N. Y. Central (short haul).	23,630	30
Ontario	47,866	4,443
Lehigh Valley	50,532	1,937
Homer Ramsdell Line	3,850	75
New Haven	2,211	36
Pennsylvania	30,007	350
Other sources	1,440	50
Totals	443,372	21,701
Same week last year	407,166	18,483

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Aug. 13, 1917.

Butter.—The market ruled firm under light offerings, but wholesale trade as usual on the last day of the week was quiet. The quality of arrivals of solid-packed creamery was generally good and supplies of all grades were pretty well cleaned up within the range of quotations. Fancy prints were scarce and firm, but unattractive stock was quiet and irregular in value.

Western, fresh, solid-packed creamery, fancy specials, 44c; extra, 42@43c; extra firsts, 41c; firsts, 40c; seconds, 39c; nearby prints, fancy, 46c; average extras, 44@45c; firsts, 42@43c; seconds, 40@41c; special fancy brands of prints were jobbing at 49@52c.

Cheese.—Offerings were light and the market ruled firm at the recent advance, but trade was quiet.

New York, full cream, fancy, June, 24c; specials higher; do., current make, best, 23½c; do., choice, new, 22½@23c; do., fair to good new, 21½@22c.

ELGIN BUTTER MARKET

Elgin, Ill., Aug. 11, 1917.

Price, 39½c; 100 tubs offered; no sale.

TOBACCO MARKET

So far as known none of the growing Pennsylvania crop has been contracted. However, it is well known that a persistent effort to that effect was made some time ago and that at present it would not be difficult to find buyers. A late report is that Clinton County growers have been offered as high as $22 per cwt. and it was thought that a few sales were consumated at that price. Most growers very rightly refuse to contract on account of the present uncertain situation. In some of the other cigar leaf localities much of the crop has been sold and invariably at high prices.

The growing crop is now doing well but is needing rain in some places. The earlier planting have been topped. Worms are causing more trouble than usual. A late Federal report places the acreage in the state at 41,000 of which some 21,000 or nearly one-half is in Lancaster County. Local authorities consider this estimate entirely too low and would place the number of acres at not less than 50,000.—H. E. Tweed, Aug. 13.

GOING BACK

By Ida M. Shepler

Mrs. Merriman dated her discontent with country life to the time their home grange hired a woman speaker to address the women members of that grange. The speaker was handsome, fluent and convincing, and Mrs. Merriman so wholly in sympathy, altho she did not guess it then, even after twenty-three years of country life, with the city bred, was quite sure the country needed all the uplift that woman said it needed; and she came out of the hall that afternoon fully persuaded to live up to white dresses and every-day country sociability, as the woman suggested so sweetly.

Back of her Mrs. Merriman heard her daughter Mary's mellow laugh. Mary, her eldest, was just twenty-two, and already the wife of a young farmer. She shrugged her shoulders. It was a sweet merry laugh, always, but it rang just as did the laugh of Mrs. Merriman's German mother-in-law, and she had wanted Mary to remind her of her own city mother, wife of a college professor. But Mary was just plain, matter of fact Mary, who had always loved living things on the farm and hand work of all kinds better than brain work alone.

''Like that speaker?'' Mary was saying, in answer to some one; ''why sure, but if I did not know something of her work, I would say that she did not know much of farm work from the way she advocates our wearing nicer clothes. Her talk would certainly hit some country places altho it does not hit anywhere near the mark here.''

Mary came alongside her mother, whispering and motioning to a where a really fine looking man was reining in a splendid matched. carriage team under a shade tree: ''I see you have the carriage newly painted, but, mamma, he isn't looking well. Papa has worked too hard this summer. Hands have been so scarce. It wasn't fair for Jim to take this summer for himself.''

''O, but it gave Jim the chance to associate with some men in the business your brother expects to take up,'' was the excusing reply.

Mary guessed the silent influence sending the brother next her, away from the farm. ''Then your father is not young any more, and he pitches in to do things just as he did twenty years ago.''

''Well, why shouldn't he? Forty-six isn't old. He ought by rights to do what he did then, but I know he did not do two men's work then,- or at least Gran'ma Merriman says he did not because help was plenty then.'' With this Mary skipped ahead, to climb up the wheel of the carriage and give her father one of her little girl hugs.

Again Mrs. Merriman felt the chill along her spine as she could not help, at least she thought so, when her daughter would drag in gran'ma's views, leaving the mother tacitly at fault somewhere. It had been when Mary was a babe in arms that Mary's mother had come up against the iron will of Mary's grandmother. The elder woman helping can and preserve plums in her son's home, heard the young wife say decisively: ''Another year and I will have a place planned after my own heart in which to keep my fruit. No more old cubby holes for it.''

''I do not understand,'' queried her husband's mother.

''Why, Fritz has promised me a new house next year. I am ashamed to bring my friends out here.''

''A new house?'' There was strong meaning below the words surging for a wider outlet. ''Freddie was goin' to build a barn, I know, but I hadn't heard of a house. He can only be safe for a barn next year. Freddie's pa and myself made it a rule to never go in debt unless we knew sure where we would get the money to pay out with. We put this strong in the heads of our boys. We build barns first, if the old house can be made comfortable and safe to live in. The new barn saves enough to build a new house soon. Understand? You do not live by your company. If your city friends are ashamed of your house, let them stay away. This is not a bad house. I lived in a worse one for twenty years. Freddie must have a new barn. His pa worries about his need of one. This year he lost much good grain because he hadn't the storage room out of the wet. I do not understand. Freddie knows he needs a barn, not a house.''

Young Mrs. Merriman spoke back sharply that it was right she should have influence. That he should listen to her wishes. Her mother-in-law shook her head, but said not another word on the subject.

After that the young wife saw her husband and his mother in close conversation. She smiled, saying aloud: ''He will do as I wish. What is a little grain lost? Such years as this seldom come.''

He did not listen. He simply told her that his parents knew best. The barn was built first; later came a substantial house, but his wife felt the sting to her self conceit to this day.

Going home from the grange meeting, Mr. Merriman spoke but once of the woman speaker.

''She made you out all so unhappy. Why, the happiest women I have ever known were country women. Look at my sisters, my old contented mother, even my little daughter Mollie—and you. Stella, are you not happy, happier than your sisters. At least I have tried to make life easy for you.''

Mrs. Merriman evaded answer by simply returning: ''She did not mean you. She wasn't talking of your kind.'' This subject in mention of her sisters grated on her nerves, for her sisters were unhappily married, but made up for it with social pleasure outside the home.

Mary was her only daughter, but there were three boys younger. James was in college, Harold was finishing high school work in a nearby city, and John, thirteen, was so nearly like his sister in his love for farm work that his mother was going to be well content to let John do as the elder Merrimans had done for generations—become a tiller of the soil.

Altho Mrs. Merriman was overly faithful for long, her country uplift work as made up of literary and social clubs did not come up to her expectations. ''They are better pleased with their own old ways of enjoying themselves, their work, their husbands, their children,'' she complained to Mary.

''Why, mamma,'' Mary answered; ''you expect too much of them. I think you have just as large memberships at such meetings here in the country as you would have in the city. Better perhaps, and just as good talent present.

Harold, too, was a source of worry. He had refused to make preparation for learning a profession. Instead he had, in spite of his father's protest, taken up a small clerkship in the city. To his mother he tried to explain that it was the only way to get a start in Big Business, and that was what he was going in for. She could not understand, and when she asked her eldest son about it, he merely told her that Harold was in the crackbrain stage and she had better let his father manage him.

Both sons in the city drew her mind to that place. Her uplift work a failure as she thought, she gave it up. About that time Mr. Merriman came down with a low, lingering fever that ended in a protracted convalescence. It was during the weakness of this time that Mrs. Merriman, aided by her eldest sons, brought him to a state of mind that excluded all thoughts of ever again being able to manage his land. ''Better get a good renter here, then move to the city,'' urged all three, unknown to Mary or her grandmother.

Mary plead, cried and stormed, but it was too late. As her father would not move into a rented house, the stock was all sold off, and aided by some money in bank, went to buy a town house suited to Mrs. Merriman's idea of what a town house should be.

''I had that money in the bank put by to buy us a good automobile,'' her father sadly told Mary.

''Yes, and papa, you had better bought it and remained here to get well. Why should a farmer always be going to town, always getting too old to work? Lawyers and doctors don't give up their callings as farmers do; neither do men in other pursuits. You could have remained right here and managed the farms all right. You will die sooner by going to town and shutting yourself off from your work.''

John, boy like, adapted himself to city life. Mrs. Merriman fell readily in line with club work, and a small round of social duties. But time hung heavily upon the father's mind. He finally ran for a minor county office, and was elected. This partially filled his time. But not being in the controlling political ring he lost out for re-election. After that he drifted from one kind of work to another, never really busy, never satisfied, his mind distraught for the peace and work of old.

In the meantime his land was running down, the tenant had already set up a system of impoverishing the land. Then under some other poor management the crops failed, and their city expenses being high, and the elder sons requiring help, the farm failed to keep them out of debt. There was nothing to do but secretly put a mortgage on the second farm. Thru sheer carelessness one of the big barns took fire and set all the other outbuildings on fire. To rebuild, another mortgage was put on this farm.

Next to follow, was a failure in business by James. He was never suited to that calling, he crossly told his mother, and somehow made her feel that she was to blame by not seeing to it that he had been well fortified by advice. This was a bitter drop in the bucket. Then, working on her feelings, he pleaded with her to talk his father into adding another mortgage to the land and starting him in a business for which he was better fitted than the first. It took much pleading to accomplish this, but Fred Merriman, breaking down from sheer inaction and distaste for city life, as well as the secret trouble from loss, gave in at last.

Then Harold, never hitting business at anything permanent in the city, was thoughtlessly led into doing something not exactly criminal, but something that if not hushed up, would leave a blot on his character. Thus a small mortgage crept onto the home farm, for the other was all gone.

Panic had been surging in the heart of Mrs. Merriman for a long time now. She had actually cared little for money; too little, and that too often leads to disaster. But the melting away of the land from her husband's possession had appealed to her as something once alive and their own to love that she had somehow helped kill.

Then came Mary one day in her big automobile, and now two little children grouped about her. Catching a good view of her father, Mary came privately to her mother, her voice shaken as she cried:

''O, mother, he is not long for this world! What is the matter with my own darling papa? Gran'ma Merriman said you'd be the death of him by moving him off to town. She said it shortened a man's life always to take away every interest from him; that gran'pa wouldn't have lived so long if he hadn't worked at something he enjoyed all the time. She said she'd a told you that plain if she hadn't always been kind of afraid of you. But I tell you, mother, gran'ma is a rare, wise woman.''

Mrs. Merriman winced. She herself then was not so wise as her mother-in-law, and the worst was that she had nothing of the consolation of believing that it was not true. After all, she had become miserably tired of the town's amusements and its smells and noises, and with it had come impending disgrace because of its temptations for her boy; and now, was it going to take her husband too.

As she stood alone, after Mary's departure, longing to go with her, back to peace and quiet, Harold came into the room. Since his trouble he had moped about, all of his old assertive manner gone. He was of blood too good to lightly bear disgrace, and the mother heart nearly suffocated at the sight of her sorrowing boy. Impulsively she opened her arms and he came into them. Leaning her head on the broad shoulder, just at its level, she sobbed: ''Harold, if only we could get away from it all. I want to get away, away; but I want you all with me.''

''Mamma,'' he answered in the old childish manner, ''and I want to get away too. I hate the city. I feel that I never want to see it again unless, like Mollie, I've got a good automobile under me and can get away the minute I want to. Mamma, I want to go back to the farm. Gran'ma sent me word to come back, and with it, she said she wished that she'd had the raising of me. She'd a kept me there if she'd had to chain me. She said to come to her. If only you cared to go—''

''But I do, Harold, I do. Grandma had her boys. She must not take mine. How can we manage to get back to the land that is left—not so much now that we can call our own as when your father and I began housekeeping?''

''But we will get it all back some day, and if we don't, what is left is better than this. This house, mother. It will sell; maybe at a loss, but it will help us stock up again for the new start. With father's advice to back us, John and I can run the farm. When will we go back?''

Mrs. Merriman went to seek her husband and make known her resolve. She found a willing listener.

Back again, Mrs. Merriman donned a calico dress and cap, and turned herself into a capable farm woman; just as much interest in the calves, colts and chickens as her daughter Mary. And soon she was happy. Her husband soon regained his health. She had her devoted sons; and Mary was near her. Her only regret, the shadow she seeks to vanish, is the lost time she lived in the city.

THE END

Live Stock

HOGS AND HIGH PRICED CORN

Some farmers appreciate the value of supplementing the high priced feeds with cheaper forage crops, while others are still feeding hogs solely on expensive corn. It has been shown by experiments all over the United States and published time and again in agricultural papers, that pork production is not profitable if the hogs are fed on corn alone. On the average it takes about 580 pounds of corn to produce a hundred pounds of gain. This amounts to almost 10½ bushels of corn. With corn selling from $1.50 to $2 per bushel, one can easily estimate the cost of pork when corn is fed alone, or as the major part of the feed. Many farmers in the country are short of corn already and some will yet have to buy before the next crop comes in.

A saving of at least 30 percent of the grain fed can be accomplished by planting forage and pasture crops for the hogs to graze. It is therefore of great importance that every farmer who possibly can do so, plant some grazing crops or root crops, to supplement the corn, and so save all the corn possible. When the hogs are ready for a quick finish they will naturally receive a large portion of their feed in the form of grain, but even then such feeds as tankage, oil meal, fish meal and other nitrogenous feeds should be fed in combination with corn.

As soon as the grain crop has been taken off the land, grazing crops should be planted, as well as hay crops. Root crops which can be stored and fed thru the winter are of no less importance, for with an abundant supply of these on hand, only a small amount of corn will be necessary for the hogs. Rape, soybeans and sorghum, can all be planted this summer, and used for grazing. The hogs can be turned on these crops and given a little corn in addition.

A great deal of grain can be saved when the hogs are to be finished off for market. If a protein supplement such as tankage, oil meal, fish meal, etc., can be furnished to feed along with the corn, more rapid and cheaper gains will result. Most of the grain should be fed to animals fattened for market and the work stock. If every farmer will stop to consider the facts in the case, he will be able to save himself money, and there will be less waste of grain on the farm.—F.

PERMANENT PASTURE FOR HOGS

Pork can be produced at a profit, even with the present high prices of grain, by using forage crops to a large extent. Permanent pastures also play an important part in a forage-crop succession.

Temporary pastures such as the cereals are best utilized in the early spring and forage crops such as corn, soy beans, cowpeas, and velvet beans furnish fall grazing, but late in the spring and in the summer there is a season during which few temporary crops are available, with the exception of rape. At this time permanent pastures such as alfalfa, the clovers, bluegrass, Bermuda, and a number of others, have their greatest use. They do not furnish grazing as early in the spring as do the cereals previously mentioned, but they grow better during late spring and summer and afford an abundance of forage at a season when few other pasture crops are ready to graze.

Permanent pastures require a minimum of attention and care. They make the cheapest pastures to maintain as it is not necessary to plow and replant each year. If not too heavily grazed they may be carried over from one season to the next and increase in value each year. They furnish almost a balanced ration, and only a little supplement need be fed to obtain a normal growth of the pigs.

One of the chief advantages of a permanent pasture is its long growing season. Growth continues from spring until fall, and the forage is palatable and nutritious at almost any time. Either a few hogs may be grazed during the whole season, or, after the pasture has made considerable growth, a large number may be pastured for a short time with practically equal results in the amount of pork produced per acre; showing that a permanent pasture is adapted to a variety of conditions in the forage-crop plan.

A permanent pasture then takes the place of a reserve forage crop, being called upon to furnish grazing at any time of the year when other pastures fail or are exhausted. The first thing to be done when one contemplates engaging in stock raising is to establish a permanent pasture. It fits into the forage-crop succession at any point where most needed, and is the cheapest pasture to maintain.—Department Letter.

FORAGE CROPS FOR SHEEP

The use of forage crops for pasture, properly managed, will control parasites in sheep. The English shepherd employs this method for sheep raising on an intensified plan where land is expensive and the greatest return per acre of land is necessary. The sheep raiser in this country may well follow his example when sheep are raised in flocks of more than fifty on high-priced land, and especially when engaged in raising sheep exclusively for mutton production.

500-lb. Berkshire Sow, Invincible Rivals Queen, 15th. Owned by C. C. Keiver. Lancaster Co., Pa.

The method consists in grazing on a forage crop such as winter wheat, rye, alfalfa, clover, rape, turnips, oats and peas, soybeans and corn. Portable hurdles or fences, provided with creeps large enough to allow the lambs to pass thru without injury may be used. In this way the lambs graze ahead of the ewes on the fresh crop.

These hurdles are moved along as the ewes graze down the forage, sufficient area being allowed for a period of two weeks. In the case of roots the tops grow out again and the roots may be harvested in late autumn. Early forage crops, depending upon the season, may be replaced and the ground reseeded for a second crop.

Rape may be used during the entire season. It produces a crop if sown at any time from early spring until September 1. Rye, sown in August, furnishes an excellent early spring pasture. If corn is used, it should be grazed when eighteen inches high. The management of sheep and lambs on summer pasture is thoroly detailed in Extension Circular 49 of Pennsylvania State College.

The ''average'' cow is holding back many a farmer when she should be in the hands of the corned-beef packers.

DAIRY CATTLE

Entire Benchester Farm Holstein Herd at Auction August 29th---Norristown, Pa.

Benchester Farm Offers for sale at the Auction of the Honorable W. M. Benninger at Norristown, Pa. on Aug. 29, twenty heifers of excellent individuality and breeding in calf to our herd sire Allamuchy K. A. Prince, a twenty-seven pound son of Korndyke Abbekerk. Also a daughter of the King of the Pontiacs and a great grand-daughter of Homestead Girl Sarcastic Lad De Kol, both of which have excellent seven-day and thirty-day A. R. O. records. As well as these there are several other excellent cows and heifers and our herd sire himself. Write for sales book to the Honorable W. M. Benninger, at Benninger's, Pa. For any other information to

Eugene B. Bennett, Owner BENCHESTER FARM,
Easton, Penna., P. O. Box 193.

SPOT FARM
Spot Farm Holsteins $15 to $20
For high grade calves either sex express paid in lots of 5. 40 large high grade and 12 registered Holstein cows due in Aug. and Sept. 35 registered heifers 1 to 2 years old. 40 high grade heifers, and registered bulls.
JOHN C. REAGAN, Tully, N. Y.

Auray Farms
Are offering exceptional bargains in young Purebred Holstein Bull Calves—$100 up. Crated—Delivered—Guaranteed! Bred from a Full List of A. R. O. dams, and sired by our King Lyons Fayne, whose dam is a sister of the World's Record 50 lb. Cow. Largely white and splendid individuals.
Write for charts and particulars to
Irving M. Avery, Mgr., Sparta, N. J.

"NO HORNS"
Naturally Polled Holstein-Friesian
bull calves, sired by a son of the World's Record senior 4 yr. old, 1294.7 lb. butter in 365 days, at $100 and up. Descriptive catalog for stamp.
GEO. E STEVENSON & SONS, Clarks Summit, Pa.

High Grade Holstein Calves
Either sex, beautifully marked, $20 each. Reg. Holstein cows, heifer and bull calves, shipped anywhere.
F. H. WOOD, BOX A, CORTLAND, N. Y.

Holstein Sale Sept. 20
of registered stock. Write for catalog.
BOB SEEDS, BIRMINGHAM, PA.

Holsteins Herd of 35 cows, 15 heifers, 5 bulls to choose from. Half grade and half registered. All have a 3-year cow testing association record for milk production. Some with A. R. O. records. Plumlyn Farm, Fairview Village, Pa. (near Norristown)

Reg. Holstein bull calf, born March 31st, 1917. Dam, a fine cow, has just made 17 lb. 3 year old record. Sire is son of 23 lb. cow; price right. Inquire of J. B. Winkelblech, Lewisburg, Pa.

Belle Alto Guernseys Registered. Promising young bulls for sale, 1 to 6 mos. at very reasonable prices. M. H. Mc Callum, Mgr. Belle Alto Farm, Wernersville, Pa.

Reg. Holsteins Pair of young cows. One has creditable A.R.O. record. Both are big cows and good producers. Bred and priced right. WILLIAM S. KER R. D. 9. CARLISLE, PA.

Holstein Calves 5 Registered heifers and 7 bulls, from a 30-lb. sire. Write for prices and pedigrees. WALTER M. CRUTTENDEN, Wilkes-Barre, Pa.

Purebred Holsteins Cows and heifers bred for Fall freshening to our $10,000 bull—Farmers' prices. MOHEGAN FARM, PEEKSKILL, N. Y

Jersey Calves Both sexes. Fine stock of the most noted pedigrees in the world. FRED G. W. RUNK, ALLENTOWN, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Reg. Jerseys Cows, heifers & calves, priced right. CHARLES G. FOSTER, P. O. Box 173. Morristown, Morris Co., N. J.

Registered Holstein bull calves from a ton show bull and heavy milking dams. Best breeding. Write I. V. OTTO, CARLISLE, PENNA.

Ayrshires young A.R. cows, bull and heifer calves Best blood lines, reasonable prices. Inspection invited. Robert Templeton & Son, Ulster, Pa.

Swine

Reg. O. I. C. "Ferndale Stock Farm." Salem, Ind. Big type. Prices reasonable. Prize blood. M. U. JOHNSON, ASHTABULA, OHIO.

Reg. O. I. C. Boar, weight 350; a good sire of large litters. Also May farrowed pigs. L. F. NICHOLAS, Mt. Bethel, Pa.

Berkshires high class pigs for sale. Aug. & Sept.—Masterpiece blood cheap. W. J. Mc CONNELL, OXFORD, PA.

LARGE BERKSHIRES AT HIGHWOOD
Service boars, bred sows, pigs all ages.
H. C. & H. B. HARPENDING, Box 45, Dundee, N. Y.

High Grade Reg. Berkshires for sale. Satisfaction guaranteed or no pay. W. S. JOHNSON, BERWICK, PA.

CHESTER WHITES and POLAND CHINAS All ages. Registered free. Jersey bulls. J. A. BOAK, ROUTE 4, NEWCASTLE, PA.

Reg. O. I. C. Swine Spring pigs and bred gilts. HIDRI VIEW FARM, Mt. BETHEL, PA.

Durocs 3 choice service boars & fall boars. Gilts will be bred for Aug. & Sept. Spring pigs mated not akin. Ira. D. Jackson, R. 10, Van Wert, O.

Reg. Poland China Swine Sired by or bred to Half Ton Boars. Dams weigh 7 hundred. E. Rowell, Hanover Virginia.

Berkshires
of Size and Quality
The boar, Majestic Mammoth 229500, weight 407 lbs. at 7 months old was bred and grown by us. When you want the best and want them big, write to—
C. H. Carter, Whitguern Farm, West Chester, Pa.

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Bred gilts for fall farrow, pigs any age, free circular. Registered Guernsey Bulls, from $35 up.
Locust Lawn Farm
Bird-In-Hand.
Box 2, Lanc. Co., Pa.

Fancy big type Improved Chester White pigs, sired by this 800 lb. show boar, and from fine large sows. Pigs shipped on approval.
C. E. Cassel, Hershey, Pa.

Reg. P. Chinas, Berkshires, C. Whites. Large strain, all ages, mated not akin. 8 weeks pigs, bred sows, service boars. Collie and Beagle dogs. Grade Guernsey calves and poultry.
P. F. HAMILTON, COCHRANVILLE, PA.

Big Type Registered Berkshires
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Veterinary

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Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Mange—Summer Itch—Sore Shoulders and Neck.—I am anxious to know of a remedy that will relieve a horse that seems to be suffering from a continual itch. As soon as the weather begins to get quite warm, the horse commences to rub himself about the head and ears, also will bite himself on both sides and belly, which causes sores to break out on him. I also have a horse that seems to be suffering with little lumps breaking out on his shoulders and at the top of his neck. These bunches do not contain pus, but do cause pain. A. L. F., Quakertown, Pa.—A horse of this kind should be kept by himself. The body should be thoroly washed with soap and water and when dry carefully annointed with a mixture of equal parts of oil of cajuput and cottonseed-oil. If this mixture is applied thoroly, it need not be applied again for three days, at which time it is not necessary to wash with soap and water. A third application should be made again three days later, and perhaps a fourth application may be required. As soon as the horse recovers, the itching ceases and the sores heal, the skin may be rubbed lightly with petrolatum of a good grade. If fresh erruptions show on different parts of the body, get busy and treat them as above stated. Give three or four dram doses of Fowler's solution of arsenic in feed or drinking water, three times a day. Paint the little bunches and sores on shoulder and neck of other horse with equal parts tincture iodine and spirits of camphor.

Bog Spavin — Thoroughpin — Light Milkers—Inferior Milk.—I have a mare troubled with swelling of both hind legs, especially the hock joints. There is a bunch in front and a puffy bunch on each side of hock. These swellings seem to be around the whole joint. I would also like to know what can be done to prevent her perspiring so freely. She is in a heated condition long before the other horses sweat. One of my cows calved two months ago. Since then she has not been in heat; furthermore, my cows are not giving as much milk or of as good quality this season as heretofore. The butter has a strong odor. C. P. S., York, Pa.—Apply to hock joint of mare equal parts tincture iodine and spirits of camphor, three times a week. Give her a teaspoonful actetate of potash in feed or drinking water, once or twice a day for 10 days or two weeks. It is no bad symptom to see a horse perspire freely during the summer season. In order to produce a better keeping milk, feed a good quality of food, clean the cows' udders before milking. The hands of milker should be clean, also his clothing. The barn should be disinfected and kept clean. Fresh air should be admitted day and night. The milk should be milked thru cheese-cloth, promptly and rapidly cooled when milked, and it should be stored in a clean, cool milk-house.

Lung Worms. — Three of my four calves recently died. They appeared to have great trouble in breathing and opened the mouth quite wide before they died, indicating that they might perhaps have lung trouble. They coughed more or less from the beginning of their sickness. D. E. M., Honesdale, Pa.—Your calves may perhaps take cold and die of congestion of the lungs, or they may suffer from lung parasites. Give each calf a teaspoonful of gasoline in ½ pint of sweet milk, three times a week for two weeks and it will perhaps help them.

Nasal Catarrh.—Two weeks ago we bought some young pigs that were seven weeks old. One of them has quite a discharge from the nostrils, is rather more dull and dumpish than the other pigs. C. D. M., Blue Bell, Pa.—Mix together one part powdered sulphate iron, one part salt, two parts ginger and four parts ground gentian and give the pig ½ teaspoonful at a dose in slop or feed, two or three times a day until he gets well.

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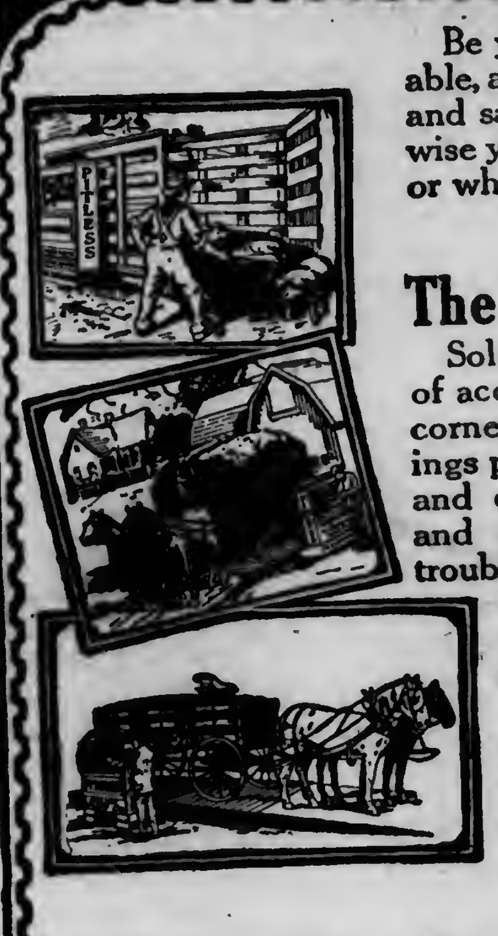

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Better Roughage for Dairy Cattle

Well-Cured Legumes and Good Silage Save on Cost of Feed

Every dairy farmer who studies the feeding problem knows the importance of good roughage. Without an abundance of palatable and nutritious roughage, labor and grain feeds are practically wasted. With good roughage, at least, a light flow of milk and the flesh condition of the cows may be maintained without a heavy expenditure for grain feeds. This raises the question, "What is good roughage?" In order to answer the question fully, we should consider the composition and yield of the different roughage feeds, and how to preserve them as to insure maximum feeding value.

What is Good Roughage

The first requisite of good roughage is palatability. Do cows like it? The chemist may analyze musty hay or silage and report as high a percent of nutrients as is found in the sweet, sound roughage that the careful farmer delights in storing in his barns and silos for his cattle. His carefulness for the health of his cattle leads him to notice the relish with which they eat the fragrant hay and well-preserved silage. He cares nothing for the analysis of the chemist which gives as high feeding value to the tough, fibrous, mow-burnt hay or the frosted, immature and moldy silage, but his crucial test of the value of his feed is in its sweetness and freedom from the mustiness and mold that tell him of its unfitness for maintaining his animals, young and old, in health and thrift.

Dusty and moldy hay and frosted, decayed silage not only lack the palatability that belongs to the most wholesome roughage feeds, but they are the prolific sources of disorders to which properly-fed animals are not subject. While it is true that the very highest grade of hay and silage cannot be made in all kinds of weather, yet the average seasons are such that the careful dairy farmer can generally provide palatable feeds and after his experience in its use he will give the needed care to secure it.

INCREASED PRICE OF PRODUCT MAY NOT BALANCE HIGHER COST OF FEED

Dairy farmers who plan for quality in the product, or who raise alfalfa and clover for hay, find their most perplexing problem is that of saving the crop without damage. Hay from alfalfa and clover and that from timothy cut green is far more palatable than hay from forage and grass that is dry before it is cut; and it is worth working for. Dairy cattle can use clover and alfalfa hay to advantage and in their proper places they are made more valuable than hay from timothy and other grasses. Add to this the larger yields and soil improving qualities of these leguminous crops, and we find sufficient reason to predict that dairy farmers with their eyes ever open to valuable business propositions will gradually turn their attention more and more to growing alfalfa and clover hay and reduce their bills for expensive protein concentrates for winter feeding.

A tremendous waste exists because farmers still continue to raise large areas of roughage crops that do not yield anything like the maximum amount of digestible nutrients per acre—particularly protein—and feeds that are not adapted to the economical feeding of dairy cows. An average acre of timothy hay does not produce more than one-tenth as much digestible protein as an acre of alfalfa hay. Notwithstanding this fact, timothy hay is grown more extensively on dairy farms than alfalfa or clover hay.

Alfalfa and Clover

In comparing the relative feed-producing power of timothy, alfalfa and red clover hay we find that an acre of timothy hay yielding one and one-half tons furnishes 84 pounds of digestible protein, 1,302 pounds of carbohydrates, and 95 pounds of fat, or a total of 1,481 pounds of digestible nutrients. An acre of alfalfa hay yielding four tons furnishes 880 pounds of protein, 3,168 pounds of carbohydrates and 216 pounds of fat, or a total of 4,264 pounds of digestible nutrients. And an acre of red clover yielding two and one-half tons of hay furnishes 340 pounds of protein, 1,790 pounds of carbohydrates and 191 pounds of fat, or a total of 2,321 pounds of digestible nutrients. When the total corn plant can be fed, as is done by preserving it in the silo, an acre of land yielding average crops of timothy, alfalfa and red clover should, when planted to corn, yield about 4,000 pounds of digestible nutrients, or nearly three times as much as an acre of timothy hay and practically the same as an acre of alfalfa hay.

The alfalfa hay, on account of its higher protein content, has a greater value as a food for milking cows. The two roughage crops that dairy farmers should consider the most important are alfalfa hay and corn for the silo. Of course red clover fits in many crop rotations better than alfalfa, and altho it furnishes less digestible nutrients per acre it is of great value in furnishing protein to balance up the deficiencies of the corn silage, and also to aid in maintaining the fertility of the soil. To produce the most palatable and digestible roughage the dairy farmer should grow alfalfa, clover and corn as his main crops, and preserve them in the best condition possible for feeding to his dairy cattle.

To get the greatest amount of feed from clover it must be cut when in full bloom with the earliest heads turning brown. The yield of hay as well as the quality dwindles rapidly if allowed to stand after this point is reached. Alfalfa is even more exacting about the time it should be cut. If it can be cut about the time little shoots have started out about an inch long at the base of the stems, it yields better hay and grows up again more rapidly than if cut at any other time. This brings the first cutting of alfalfa at an earlier date than the first cutting of red clover. Even timothy, the present main reliance of many dairy farmers, should be cut between the time it blooms and the time the seeds reach the dough stage if one would secure the greatest yield of digestible nutrients per acre.

Curing Legumes

Plants must be made to get the hay into the mows with as little exposure to the weather as possible. The tedder hastens the drying to a marvelous degree, especially in the renovation of the hay that has already been caught by the rain in the swath and hay that is green and heavy. The side-delivery rake may also be used to stir the hay as well as for raking it into light, open windrows in which the drying may proceed without allowing the leaves to become brittle. The leaves of alfalfa and clover must be kept from becoming too dry and brittle. So long as they are fresh they hasten the curing of the hay by drawing the moisture from the stalks. The leaves are the most valuable part of the hay and they should reach the mow before getting so dry as to shatter or else the hay will be greatly depreciated.

Dairy farmers who study closely the milk yields of their cows and the thrift of their young stock find that it pays to cure alfalfa and clover hay in the cock. By this means they protect it as much as they can from the weather while in the field and allow the moisture to work out of the stems thru the leaves without losing any of the leaves which contain the most feeding value. It seems to be the only practicable way of making first-class hay. If covers are used to protect the hay cocks from hard rains, a further saving may be made in the saving of the feeding value of the hay. A dollar a ton will pay for the extra labor in curing hay in the cock. One can readily see that much difference between bright, clean alfalfa and clover hay with the leaves on and a mass of faded and bleached stems. Three-fifths of the protein in alfalfa and clover plants are in the leaves, which are as valuable for feeding as wheat bran.

Abundant evidence is at hand to prove that silage is of as great economic value as a feed for

(Continued on page 8.)

Things That Make a Farm Valuable

Points to Consider When Buying or Starting a Farm

There are many factors which help to determine what a farm is worth, such as: The fertility and physical condition of the soil, drainage, amount of waste land, tax rate, water supply, etc., but the location with regard to markets and shipping facilities, and the way the farm itself is laid out, has more to do with real profits and hence the farm value than is generally realized.

The distance that products must be hauled to market largely determines what the farm is to produce. Things which are bulky as compared with their value, or which are perishable, can not be profitably grown far from the markets or shipping points. Statistics show that it costs about 5 percent of its value to haul milk less than a mile on the average, while when it has to be taken five miles, the cost of hauling is 15 percent of its value. This means that a dairy farm located a considerable distance from a creamery or railroad does not have nearly as high a value as one close by. If the distance is too great, the selling of whole milk is out of the question. Hay also can not be hauled very far because one can not take many dollars' worth at a time, so the cost of hauling is too large a percentage of the total value.

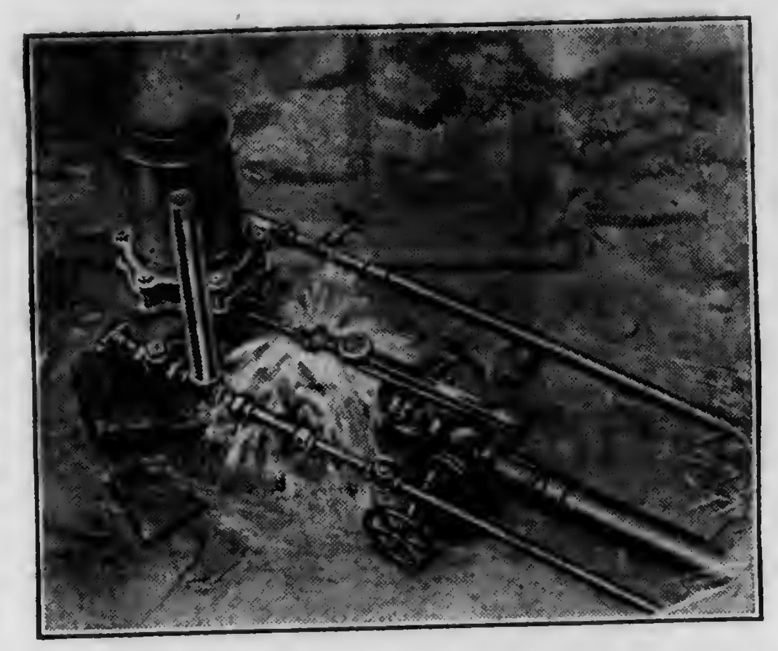
Good roads have much to do with increasing the value of farm properties. They make it possible to haul much larger loads in a great deal less time. Many of the clay roads are almost impassible during certain times of the year which not only limits the amount of stuff that can be hauled but it also makes it unpleasant when one must go over them for business or other purposes. A hard hill may also be a very serious drawback to an otherwise desirable farm. When one is located off the good roads, the use of the auto and the auto-truck is also limited.

To be near a railroad station is a great convenience, not only for traveling but also because of the saving on whatever one sells or buys. Many of the mills, feed stores and other business places are located along railroads so one has the choice of buying and selling to them or of dealing direct with the dealers in the larger cities. If one is far from the railroad, one is compelled to deal with the local people often to one's disadvantage. Since there is no competition they can pay for one's products what they please and also fix their selling price to the farmer. It is also a great advantage to be on a trunk line rather than on a branch because the freight cost and damage from handling is less and shipments are quicker.

Location as to neighbors is important. A closely settled region makes a more sociable and less lonesome community. It makes possible better churches, schools and all the different kinds of organizations so essential to farmers. Besides this, one can often co-operate with his neighbor by exchanging work or machinery or breeding stock.

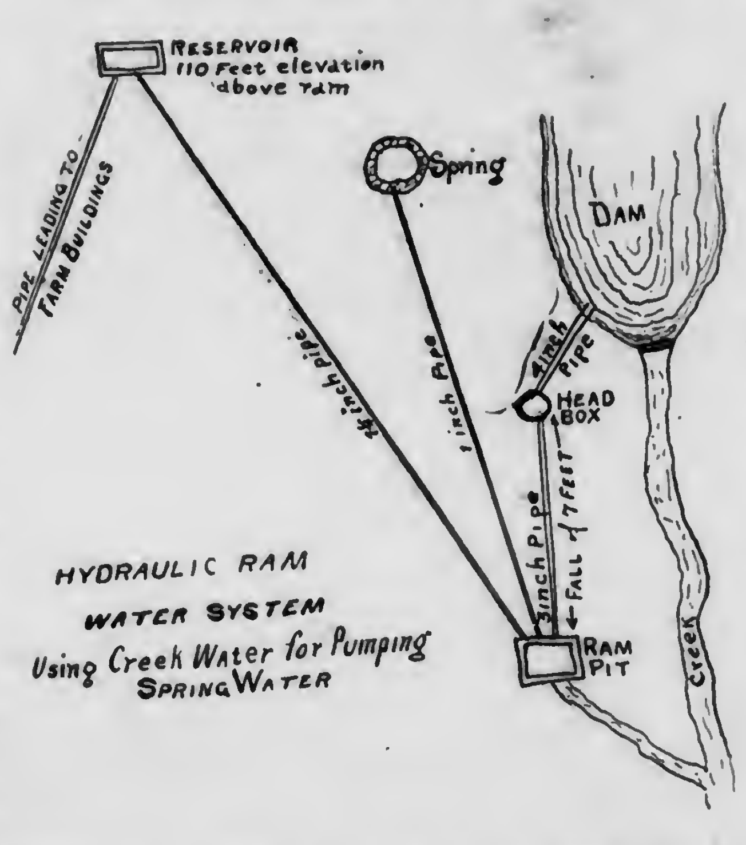
The location as to rural improvements is an important consideration. Nearness to trolleys is desirable. The telephone and rural delivery greatly add to the value of a farm. They were luxuries at one time but have become necessities now. If one is close to an electric line one can have more satisfactory and just as cheap light and power as is possible by any other method.

The farm lay-out also has a great deal to do with the value. Some things such as the boundaries of fields and lanes can often easily be changed, but the arrangement of the buildings with respect to each other and their location on the farm can not be so easily altered.



DOUBLE-ACTION HYDRAULIC RAM PUMPING THREE PINTS OF WATER PER MINUTE.

Small, irregular fields are a nuisance and very expensive to care for because too much time is wasted in turning at the corners and a great deal of land is not used between the fields. Large rectangular fields about again as long as wide are most desirable for they require less turning and they also require less fencing per acre than small fields.



It is unfortunate where the buildings are loca at one corner of the farm. By valuing a man's tim at 16 cents per hour and a horse at 12 cents, on a ordinary farm with a five-year rotation the value land is $8 more per acre when it is right at th barn than when it is a quarter of a mile away. O does not realize the great amount of time lost going to and from the fields until one does a litt figuring.

The ideal arrangement would be a farm twice long as wide with the public road cutting it cros ways in half and the buildings located in the cent of the farm. On a 160-acre farm laid out like thi the average distance to the field is 59 rods less tha if it were square with the buildings in one corne The nearer the buildings are to the center of th farm the more it is worth, provided they are the public highway.

It is better to be along the public road, how ever, than at the center of the farm if a choice mu be made between the two. If the buildings a away from the road, a private lane must be ke up, one must go farther to the rural delivery ma box, the trips to town are longer, one is more is lated from the neighbors and passers-by which usually not desirable in the country and it will n sell so well.

The farm buildings should be located on a slig elevation so there is natural drainage away from th buildings. Low places are usually not healthy sin there is poor air circulation and it is likely to damp and a place for the breeding of mosquitoe The house and barn should be far enough apart that they are not both endangered in case of fire the one.

The buildings should be substantial but n elaborate. On many farms they cost much mo than the farm itself is worth. Where it takes a the profit above feed cost for a cow, a chicken a hog to pay the interest on the money invested her stable, the buildings will soon be in bad repa unless the owner has a lot of surplus capital whi he does not mind getting rid of. Because of e pensive buildings, farms are often valued much hig er than their actual value.

Well-arranged buildings with good foundation walls and roofs are of far greater importance tha beauty or luxury. Convenient arrangement of fe alleys, mows, water, etc., so the stock can be tak care of with the least labor adds greatly to the val of the barn. It is the same way with the hous Running water, heat, bathroom and other conv iences are more important than latticed arbors, lar porches and many ornaments which only requi labor and expense to keep in repair.

A small family orchard with all kinds of fru adds greatly to the value of a farm. It furnish fresh fruit thru the season which is a luxury in itse but at the same time it supplies a great variety dishes for the family table.—W. H. Rothenberge

INSTALLING A HYDRAULIC RAM

The question of an adequate and economical water supply for the dairy farm is a most important factor in the dairy business. Outside of a natural flow the hydraulic ram is the most economical where the location and volume of water makes its use possible. In installing a ram there are certain principles which must be observed or the plant will not be a success: First, a sufficient amount of water; second, a proper fall in the feed pipe, and third, the proper length and size of feed pipe. A case in mind is one installed about a year ago which, altho not under the best circumstances, is working successfully today and is supplying water for a large dairy. There was an elevation of about 110 feet to be overcome in a distance of about 800 feet.

The feed pipe is 150 feet long and three inches in diameter and we had a fall of seven feet from the head box to the ram. This was necessary to overcome the resistance, or weight of 45 pounds back pressure created by the weight of water in the rise pipe. This pressure is calculated by allowing four-tenths pou for each foot of rise, which in this case was 110 fe It was desired to use the water from a clear, spa ling spring, but more water than supplied was necessary to operate th ram, so the water from a creek w used to pump the spring water to th reservoir. The water from the spri is brought about 300 feet thru a on inch pipe by gravity and enters th ram where it receives the force of th creek water from the feed pipe and forced thru the rise pipe into th cistern. To one unacquainted with th principle of a hydraulic ram it ma seem a mystery as to what keeps working, but it is really very simp

CREEK DAMMED TO SUPPLY WATER TO HEAD BOX.

The pipes must be laid de enough in the ground that frost w not reach them. The ram is pl on a large, solid stone seven fee low the surface in the ram pit, and runway was provided to carry water to the creek. The ram needs no attention other than to see that it is oiled and kept clean. A wire screen is placed over the end of the terra cotta pipe leading from the dam to the head box to keep out dirt and prevent clogging. A ram needs no fuel other than a steady and sufficient supply of water which is found on many farms, and which could be used to supply the farm house and barn where that problem is now a vexing one.—C. H. Thomas, Chester Co., Pa.

By the Way

By
Father Penn

A few weeks ago I wrote comments on the disastrous effects upon agriculture of over-production and over-expansion. In it there was no intention of covering general economic conditions such as distribution, unemployment, low wages, taxation, etc., but the main idea was to show the immediate effect upon the farmer when he produced too much—or, had I better say, more than the public had money to buy? I expected to hear from certain quarters, and sure enough came a very interesting letter from a Single Taxer which contained the following:

> "Does Father Penn really believe that when the baleful influence of 70-cent wheat, 30-cent corn and 5-cent pork overran this country that it was due to over production or over-expansion? Does he believe that all the non-farming part of the population was suffering from indigestion or gout, brought on by over-indulgence in wheat, corn and pork? . . . . If single tax conditions existed, all the horrible low-price visions of Father Penn would disappear, since the farmer would have no $50, $100 or $200 per acre land to buy, or in other words he could take up any unused land without having to pay for permission to use it, for that is all that purchase of land means. . . . . It seems to me that so long as the farmer refuses to see where his interests lie he need not worry over conditions. As long as he attempts to play in the landlord game, the smart Alecks will put it over on him. Why has Father Penn so consistently refrained from mentioning taxation?"

In the great struggle for human betterment and the improvement of social conditions (much of which struggle is unconsciously made) we find so many wrongs and so many remedies that it will be a long time before the majority will agree upon what is wrong in principle, or even upon a remedy after the wrong is recognized. However, the difficulty of the task should not deter any one from giving his best attention to the improvement of social and economic conditions. One of the many questions which society is asking is, "Is it right that any man or any class of men may own and control, to the disadvantage of others, any natural thing which is necessary to the life, comfort or happiness of the people?" The passage of certain laws in nearly all countries in recent years shows that humanity is approaching a time when it will return an emphatic NO to the above question.

Schools of thought and political parties have been evolved, each with a single idea which, it is contended by its devotees, will cure all the social and economic ills of society. Men fail to realize that no one remedy however valuable in itself is a panacea for all the ailments of greed and selfishness which inflict society. It may be a long time before we shall see established, as a just principle of government, this: "From each, according to his ability; to each, according to his need." Some such principle should underlie all taxation laws. Single Taxers tell us that their plan will bring justice into being and apply it. Maybe it would.

Ever since the days when tribal chiefs arbitrarily exacted tribute from friend as well as foe, down thru the days of tithes and tolls laid upon conquered peoples by knights, to the present time when a semblance of justice and equality appears, the question of taxation has been a matter of complaint and dissatisfaction. A student of the subject wrote many years ago: "In the matter of taxation the desire is to pluck the geese (the people) by a system which will get the largest amount of feathers (taxes) with the least amount of squawking." It would seem that this idea prevails in most tax laws today.

In ancient times the taxes and tithes collected were for the benefit and enrichment of individuals. The strong-arm individual was the taxing power and common good was an unrecognized quantity. Today, theoretically at least, the taxes are for the care and advancement of the common good. Practically, we find that a large part of the tax money is used by men and parties for personal and party profit. By craftily apportioning it, it is possible to build up and maintain a party machine which is almost invulnerable. Yet it could not maintain itself if otherwise good men did not lend their assistance by voting with them in turn for favors in the shape of laws giving special privileges.

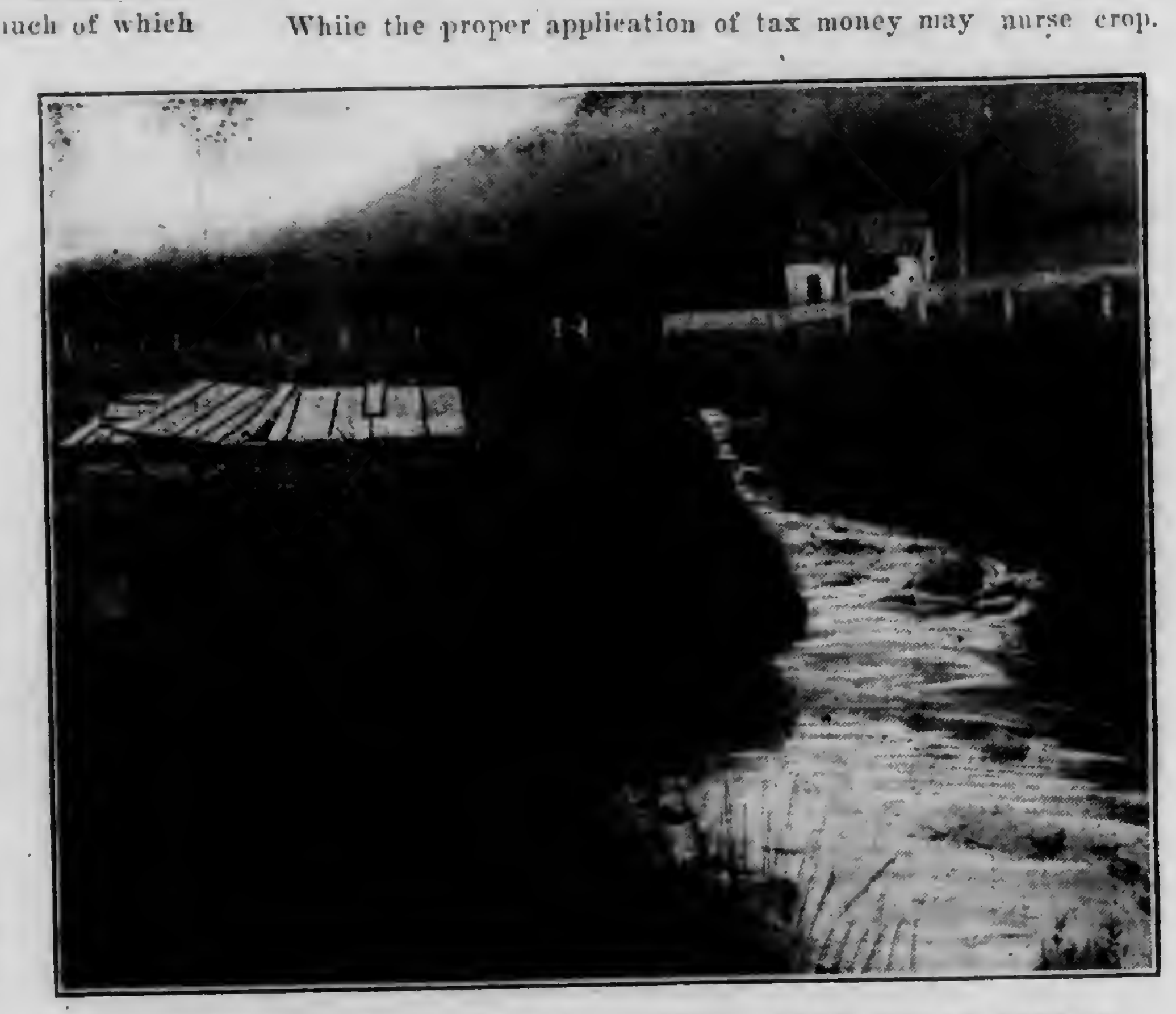
HEAD BOX WHERE FEED PIPE TO RAM IS LOCATED.

While the proper application of tax money may always be a question for difference of opinion, it ought not to be so difficult to find a just plan upon which to base the levying of taxes. If the one referred to above—"From each, according to his ability"—were adopted it would be in line with other principles of democratic government. In the matter of selecting men for the army, those who are able to stand the strain, those who have the qualities necessary are taken and they must render service for all to a common cause. In the raising of money for common purposes, why should not the same principle apply and the money be collected from those who have it and who are most able to pay?

The past few years have seen great changes in taxation laws, but still greater changes must be made. We have adopted the income tax principle as just; as a war measure, we have approved of taxing excess profits, and this should stand until we reach a point where it is unlawful to make "excessive" profits. The one big improvement we have not yet been able to accomplish is the taxing of corporate wealth on the same basis as real estate. It is this reformation that farmers have been most interested in and which, so far, they have failed to accomplish. The demand may be put in one sentence: Every dollar of wealth shall pay a just and equal share of taxes.

Since all the wealth is produced on or from the land, the Single Taxers say that the land is the logical basis of taxation. Whether the land be a farm, the location of a bank, railroad, factory or what not, it should be taxed according to the income or potential income produced upon it and this tax would prevent holding land out of use for speculative purposes. Maybe this would prove to be one of the ingredients in making the panacea by which humanity's economic ills are to be cured. I do not know.

I am not sure however, in fact I very much doubt, whether even a just assessment of taxes would lower the cost of production enough to materially lower wholesale food prices. I also doubt whether any large number of workers would or could go out and work unused land in times like those referred to in the article mentioned. The world's workers have become so set and specialized that it is not possible to make so radical a change even to meet a dire necessity.



THE RAM PIT WALLED UP AND COVERED. NOTE SIZE OF STREAM FURNISHING WATER TO THE RAM.

Raising Good Timothy & Alfalfa

Mr. Harvey Spencer, of Chester County, Pa., has some particularly fine fields of timothy and alfalfa. A notable example is a two-year-old meadow. The hay was fine in texture, and heavy, and at the time of cutting there was not a weed to be seen. Timothy fields averaged three tons of hay to the acre.

Mr. Spencer attributes a great deal of his success with hay to the fact that he consistently practices top-dressing with commercial fertilizer and manure. This particular field was plowed after a crop of wheat had been harvested, and was worked up into a fine condition. The timothy was sown without a nurse crop. During the winter it was top-dressed lightly with stable manure and in the spring received an application of about 250 or 300 pounds of fertilizer containing high percentages of nitrogen and phosphoric acid.

To the left of the timothy is a field of mixed timothy and alfalfa, which Mr. Spencer says has been yielding large quantities of splendid hay. The treatment of the two fields has been about the same, with the exception that a ton of hydrated lime to the acre was applied, and worked into the ground where the alfalfa is growing. The alfalfa is top-dressed with manure and fertilizer in much the same way except that it receives two applications the first year—one early in the spring, and one in the summer after cutting the second time. In both cases large percentages of nitrogen are used.

Mr. Spencer explains his attitude on top-dressing alfalfa by saying that a crop which yields from three to five tons per acre must be cared for and fed. He also believes that nitrogen is especially needed to start the plants in the spring. Many farmers who have land suited to the production of hay, and who are favorably situated as regards good markets are finding that it pays to keep a good stand of timothy for the production of hay for several years before plowing down. To do this, it requires annual top-dressing. The old practice of mowing a field as long as it will pay to run the mower over it is ruinous, but when the grass is fed nitrogen and phosphoric acid early in the spring in quantities sufficient to grow the grass and keep up the fertility the thing is easily and profitably done.—E. G. McCloskey.

N. Y. State Fruit Growers

Hold Summer Meeting and Make Tour of the State

The annual summer meeting and automobile excursion of the New York State Fruit Growers' Association was held during the week ending August 11th. It began with a visit to Oswego County orchards Tuesday morning and extended thru the five counties bordering the south shore of Lake Ontario, westward to the Niagara River, reaching the latter place Saturday afternoon. The entire trip of 200 or more miles presented one continuous panorama of thrifty orchards, small fruit plantations, and beautiful scenery. In the whole distance, the visitors were never out of sight of orchards except when passing thru cities. Fruit growers and their wives and friends gathered from all parts of the state and other states for this trip. At times 30 or 40 automobiles were sufficient to convey the party, at other times 300 automobiles were in line.

Renovated Orchards

Some progressive fruit growers are discovering great possibilities for profit in renovating the old semi-abandoned orchards. An orchard owned by J. S. Beckwith, near New Haven, provided a good demonstration of the producing capacity of these neglected orchards under intelligent cultivation, pruning and spraying. This orchard has been renovated and brought to a high state of productiveness. The orchard contains 45 acres of apples and 40 acres of pears. When it was renovated, 85 cords of wood were taken out. The crops paid for the farm in three years. The pear orchard is intercropped with beans, berries, and five acres of asters which are grown for the New York market. The gathering of the asters is done by the berry and cherry pickers, affording longer employment and enabling the manager to secure more efficient help.

Rosy Aphis

An interesting rosy aphis experiment is being conducted in the Beckwith orchard. Experiments during recent years by the Geneva station have pointed to a delayed dormant application with lime-sulphur and nicotine solution (lime-sulphur diluted 1 to 8. 100 gallons, and nicotine solution 40 percent, ¾ pint) as the most practical means of preventing injuries by the rosy aphis.

The Great Bear Springs farm near Fulton with its 120 acres of Northern Spy apples, 80 acres of Montmorency cherries, and 300 acres of pine seedlings interested the visitors.

At Fruit Valley a meeting was held on the lawn of Spencer Brownell, and Professor H. H. Whetzel, of Ithaca, discussed the apple scab, suggesting the plowing under of dead leaves early in the spring and spraying when the buds first open.

Wednesday morning the fruit growers entered Wayne County at Red Creek. Wayne is first in apple production in the state, with a crop of 3,036,152 bushels, as reported in the 1916 census. The orchards are large, and as fruit growing is the main industry, better care was noticeable on every farm.

Big Orchards

Among the larger orchards visited were those of E. W. Catchpole and son of North Rose, with 104 acres of apples and six acres of cherries: Sodus Fruit Farm, with 75 acres apples, 260 acres of peaches, 105 acres of cherries, and 45 acres of plums and prunes, and Teats Brothers, of Williamson, with 200 acres of peaches, 84 acres of apples and 43 acres of other fruits.

In F. W. Cornwall's 75-acre peach orchard at Putneyville, from 200 to 400 peaches had been taken from each tree in thinning. In this orchard it has been found by experiments conducted by the Farm Bureau that with good soil conditions it is not profitable to use commercial fertilizers except nitrate of soda on individual trees. There was no advantage found in the use of phosphate.

In the 125-acre apple orchard on the Cornwall farm, dusting and spraying experiments were being carried on with no perceptible difference in results.

Governor Whitman Speaks

In a picnic in a grove on the Sodus Fruit Farm, Governor Charles S. Whitman spoke to 1500 fruit growers on his proposed state food control bill, declaring that if the farmers are not encouraged to do their best in crop production there would be a fruit shortage.

DOING AN IMPORTANT WORK IN ASPARAGUS CULTURE.

"At Albany," said the governor, "I have convened the legislature in special session and I have communicated to that body my views in regard to legislation designed to solve the so-called food problem. I defy anyone to point out a single suggestion in that message which would be detrimental to the interests of the farmer. The only suggestions which in any way affect him are beneficial. I find from talking to certain members of the legislature representing rural districts that there is danger of misapprehension in the mind of the farmer in regard to my proposals.

"I do not hesitate to say that this misapprehension is due to the work of unscrupulous and greedy food gamblers, who have spared neither time nor money in doing all that they could, by every means, fair or unfair, to thwart any attempt to pass proper food legislation both at Washington and Albany. They have been successful in blocking food legislation in Washington for approximately 120 days and I do not intend, if I can prevent it, that they shall succeed in delaying it that long in the state of New York. The very men who in the past have been responsible for the unfair treatment the farmer has received in the big markets, and the insufficient prices he has received for his produce, are the very men who, at this time, are trying to persuade him that they are his real friends.

"I expressly stated in my message that I deemed it unwise for the state of New York to attempt to fix maximum prices and that it probably would be wise to leave the matter of fixing minimum prices to the Federal Government. In this instance also there has been an attempt by certain unscrupulous people to lead farmers to believe that any food control measure must carry with it price fixing, either maximum or minimum or both.

"I now pledge my word to veto any bill that would empower anyone in the state of New York to fix a maximum or a minimum price at this time.

"Another thing that is needed is greater publicity. The farmer should know every day where he can sell his product to the greatest advantage. By publicity the farmer will be able to get more direct communication with the market and with the consumer.

"The food speculator and gambler live in the dark. They thrive on the inability of the farmer to obtain accurate market information, and they try to block every effort to provide the means of getting this information to the farmer."

Commissioner of Agriculture Charles S. Wilson spoke on the work of the State Food Supply Commission, saying that the farmers of New York had increased their cultivated acreage 20 to 30 percent, and that the commission was developing a plan to aid in marketing the crops.

On Thursday morning the market gardening section of Irondequoit adjoining the city of Rochester was visited under the direction of the Monroe County Farm Bureau. Irondequoit is one of seven largest market garden districts in the United States. The town has 600 acres under glass, and many acres of well-tilled gardens.

Intensive Farming

Irondequoit gardeners grow two crops on the same land at the same time. By this method they will have four crops during the season. Over-head irrigation, both inside and outside, have been in use several years, and growers are increasing their irrigating plants every year.

James H. West Sons have over an acre under glass. One of their houses this season produced five tons of tomatoes, which sold at very good prices. Many cucumbers are raised. The vines are trained to an overhead trellis, and the variety grown is a cross between the English type and the American White Spine type, the growers having selected a cucumber 12 inches long and 2½ inches in diameter.

In Irondequoit the growers were much interested in the 117-acre peach orchard of W. T. Rudman Sons. This orchard was cleanly cultivated with not a weed to be seen. It had just been sown to turnips, which is the favorite cover crop. The trees in the oldest orchard are now 25 years old and are vigorous and productive. Upwards of 43,000 baskets of peaches have been picked in this orchard in a season. The soil is a dry sandy loam.

The Rudman orchards are plowed in spring and also in the fall. Fall plowing is necessary to protect the trees from mice. After the spring plowing the orchards are dragged at frequent intervals until August. No commercial fertilizers are used. A dressing of stable manure is applied every other year. The trees are sprayed once and no attention is given to borers, which are not troublesome. Under this treatment the orchards have never missed a crop since they reached bearing age.

Against State Food Control

Thursday afternoon many large apple and peach orchards in the vicinity of Hilton were visited. Dusting and spraying demonstrations were held on the large fruit farm of F. W. Curtis, where the afternoon meeting took place. At this meeting, Prof. Samuel Fraser, President W. P. Rogers and secretary E. C. Gillett of the state association spoke in opposition to Governor Whitman's food commission bill, and strong resolutions were unanimously adopted opposing any action of the legislature to control food. The fruit growers of New York are emphatic in their demand that food regulation and control be left to the national administration.

Cold Storage Plants

The fourth day began with a visit to the cold storage plant at Kendall, Orleans County. The walls of this storage are of brick and stone. The building cost $98,000 in 1914, and the capacity is 50,000 barrels of apples. Heretofore the cost of storage at Kendall has been 40 cents a barrel, but owing to higher cost of coal and labor the price will be advanced to 50 cents a barrel the coming season.

The Growers' Cold Storage Company's plant at Waterport was also inspected. The plant cost $126,000, and has a capacity of 70,000 barrels. Cold storage plants similar to those at Kendall and Waterport are to be found at nearly every shipping point thruout the Ontario Lake shore region from Wayne County to the Niagara River. They are of modern design and equipment, and are owned largely by stock companies, the stock being held by the fruit growers, who co-operate in the operation of the plants.

Farm Tractors

At Albion a tractor demonstration was held, in which twelve makes of farm tractors competed for public favor. Parked around the field were at least 325 automobiles, and upwards of 1,200 men witnessed the demonstration.

Power Ditchers and Tile Drainage

A power ditcher demonstration was also held at the same hour on another farm nearby, which attracted quite a crowd of farmers. Orleans County fruit growers have found that tile

drainage is a profitable investment on most of their lands. On Orchard Dale Fruit Farm in this county, where is to be found the largest quince orchard in the world, there are 20 miles of tile drain. There are nearly 23 miles of drain tile on the fruit and dairy farm of John Beckwith, and the large crops growing on naturally wet ground gave proof of the value of drainage. On several other farms are from one to three miles of tile drain, and many farmers will make use of the power tile ditcher provided by the State Food Supply Commission, to largely increase their tile-drained acreage before another crop season.

Some very old apple orchards were seen in Orleans County. On A. C. Howes' farm there is an orchard over 100 years of age, which was renovated four years ago at a cost of one dollar a tree. Last year these trees bore fruit, and a small crop will be gathered from them this fall. Only three trees have died in the four-acre orchard since it was renovated.

Niagara County

Starting from Olcott Beach, a Lake Ontario summer resort, Saturday morning, the fruit growers traveled many miles thru the beautiful Niagara County fruit belt, reaching Niagara Falls late in the evening. In this county, especially along the lake shore, are many fine old fruit farms, with large houses equipped with modern improvements, extensive home grounds and other evidences of generations of thrift and prosperity. Fruit orchards have built these fine old homes and made their owners well-to-do and independent, developed prosperous villages and laid the foundation for several cities in this region.

An orchard worthy of special mention was seen on the farm of P. P. Landy, near Barker. This orchard of 41 acres has not been pruned in 18 years, and has borne a crop every year since it was five years old. It is now loaded with apples of good size, and the limbs hang to the ground.

Niagara is a great peach district, the soil and climate favoring the fullest development of the tree and fruit. There are many old orchards in a healthy condition. On the farm of Jesse O. Lockwood is the oldest commercial peach orchard in New York state. A number of trees are in bearing that were set over 40 years ago.

A demonstration of the results from good culture was given in the 20-acre apple orchard of Carrol Brothers, near Ransomville. Two expert fruit growers leased this orchard on a term of years contract five years ago. Then it was in a badly run-down condition, due to scale and other pests, and it never bore much fruit. The first year of renovation this orchard yielded 1,350 barrels and not one barrel was culled on account of scale.

At several points along the route the visitors were invited to leave their machines and examine the orchards for control of apple scab and pear psylla as secured by the Niagara County Farm Bureau Co-operative Spraying Service. This service is a new feature of Farm Bureau work.

Co-operative Spraying

The Niagara County growers asked the Farm Bureau to organize a co-operative system to secure the services of an expert in order to anticipate orchard infestation one or two days in advance, and to make his findings available to a large body of men as soon as he made them so that they could put on an application of spray material in advance of the anticipated infections. The county possessed such an expert in L. F. Strickland, a state inspector who is thoroly conversant with conditions in the orchards. The telephone is used to spread the information among the growers.

Owing to the diversity in soil types and climate, it was found necessary to divide the county into zones where it was assumed that conditions would be similar. To overcome the varied conditions found within the zones, it was decided to designate one orchard of each kind of fruit in each zone as a criterion orchard. The expert makes his inspections in these orchards, and it is understood by the growers that the information he sends out is based on conditions found in them. If a grower is in doubt as to using the information he can compare his own conditions with those prevailing in the criterion orchard, and exercise his own judgment in making a decision. Weather forecasts are received from the government by the Farm Bureau and distributed to the grower by this co-operative service. Whenever conditions in the criterion orchard in any zone make it advisable to put on an application of spray material, Mr. Strickland notifies the Farm Bureau office that such is the case, what material to use and when to finish as based on weather forecasts. The Farm Bureau then telephones to one man in each zone for which the recommendation is made. This man then telephones to three men and each of the three to three men apiece, and so on, until all the growers are notified. These recommendations are codified for speed and accuracy. Each grower is instructed to write down the recommendations on especially provided blanks and read it back to the man who gave him the information. It is said that the accuracy with which these recommendations are transmitted is extremely satisfactory.

School Boy Pickers

The Niagara County Farm Bureau is arranging to furnish to the growers 2,000 high school boys to pick peaches. These boys, from 16 to 20 years of age, will be distributed in camps in peach growing communities. The State Food Supply Commission will provide a camp leader for every 25 boys.

Crop Prospects

General crop conditions in the five Ontario Lake shore counties of Western New York are uneven. Large crops of wheat and oats have been harvested everywhere. There are many good fields of potatoes in Oswego and Wayne Counties, but from Rochester westward to the Niagara River the potato crop is in a poor condition, with prospects for a light yield. The acreage, however, is unusually large. With a much larger than the average acreage of beans, the crop will be small, hundreds of acres will not return the seed. In Wayne, Orleans, Monroe and Niagara Counties cabbage is three or four weeks later than in other seasons, and the acreage is below the average. Wet weather reduced the onion acreage in Wayne and Monroe Counties, and the condition is estimated to be 30 percent below the average. The corn crop is poor and late.

There will be few apples harvested in Oswego, Wayne, Monroe and Orleans Counties, and the Niagara County estimate is from 15 to 25 percent of a full crop. Peach trees in most orchards are heavily loaded with fruit. Niagara County estimates range from 90 to 125 percent of a normal crop, while the Niagara County estimates place the pear crop at from 30 to 50 percent of a crop, which is better than the prospects for pears east of Rochester.

In a closing address at Olcott Beach, President W. P. Rogers, of the State Fruit Growers' Association, gave his opinion that this had been the greatest educational trip the New York State fruit growers have ever taken.—E. E. Reynolds.

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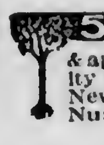

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PHILADELPHIA, PA., AUGUST 25, 1917.

GROW YOUR FEED

If ever there was a time when farmers needed to make special effort to grow a greater proportion of their dairy and stock feeds it is now. The prices of dairy products and meat of all kinds are high and will likely remain so for some time to come. In spite of this fact, the prices of all feeds are so high that the grower or producer has little or no greater profit than in past years. Those who were wise have been growing plenty of clover, alfalfa, soybeans, oats and peas, etc., and are in good shape to take advantage of the high prices. Those who have not done so, should begin at once. If you have any ground at all fitted for seeding to alfalfa, get busy and do it NOW.

* * *

FEDERAL DOG TAX

An effort is being made to secure an amendment to the federal revenue bill assessing a federal tax of $1 per head on all dogs in the country. The effort is inspired in the interest of an increased sheep population and to increase federal revenues. The principle is a new one in federal taxation and would probably have small effect upon the sheep and wool industry. It would, however, yield a considerable sum of money on a class of animals kept too generally as a mere luxury.

* * *

HELPING A FAKER

We are surprised to see that an esteemed contemporary has swallowed the bait of a wiley angler, hook and all, by publishing an unscientific and impractical screed from a man who claims that he has discovered the right days in each month on which tobacco should be cut in order to secure a "rich, waxy" product. The writer invites correspondence from growers, and we have learned that he demands a nice little fee from those who answer before he will make known his "secret" days. Pennsylvania Farmer investigated the "patriotic" offer of the estimable gentleman and refused to be a party to exploiting the people for the benefit of fakers and fortune-tellers.

* * *

THE WHEAT PRICE COMMISSION

The personnel of the price-fixing commission to establish a price for the 1917 wheat crop was announced August 15. We publish the complete list with position of each member, as follows:

Henry A. Garfield, president of Williams College, chairman; Charles J. Barrett, Union City, Ga., president of the Farmers' Union; William N. Doak, Roanoke, Va., vice-president of the Brotherhood of Railroad Trainmen; Eugene E. Funk, Bloomington, Ill., president of the National Corn Association; Edward F. Ladd, Fargo, N. D., president of the North Dakota Agricultural College; R. Goodwyn Rhett, Charleston, S. C., president of the Chamber of Commerce of the United States; J. W. Shorthill, secretary of the National Council of Farmers' Co-operative Association; James W. Sullivan, Brooklyn, N. Y., of the American Federation of Labor; L. J. Tabor, Barnesville, O., master of the Ohio State Grange; Frank W. Taussig, chairman of the Tariff Commission; Theodore N. Vail, Boston, Mass., president of the American Telephone and Telegraph Company, and Henry J. Waters, president of the Kansas State Agricultural College.

It will be noted that of the twelve members, four are representatives of farmers' organizations, two representatives of agricultural colleges, two representatives of labor organizations and the remaining four representing other interests. As this commission is charged with setting the first important commodity price in a far-reaching price-regulation program, and as the price of wheat has long borne a close relationship with other grains, the task is no easy one. It will require all of the technical and practical knowledge of the farmers named to meet the requirements of the job. It is not announced when the commission is expected to report, but it will doubtless appreciate authentic reports from grain farmers on cost of production and all factors entering into the establishment of a just price. Such reports should be filed quickly.

* * *

FARM MACHINERY

Competent farm help and an ample supply of farm machinery are two essentials to success in the war. The need of experienced help is so obvious that it should need no further comment. Yet the powers organizing to supervise and control the movement of farm crops appear to have given but slight attention to this need. The farmers are now feeling the pinch of the labor shortage as never before, and if there is to be the increase in staple crops now being demanded for next season the labor problem must be met with something more substantial than mere promises.

The farm machinery problem must be met at once if conditions are to be improved for next year. Farm implement manufacturers are facing a serious shortage of raw material, shortage in factory labor and delayed transportation. It is asserted that stocks on hand of staple tools and machines are low and unless there is some relief in raw materials and labor the supply of machinery is certain to be short for next spring and summer. The National Implement and Vehicle Association makes four specific requests that should receive the support of all farmers:

1. That the manufacturers of farm materials be given equal preference as to supplies of necessary raw materials with making of war munitions.
2. That service to the country in farm machinery factories be considered as of equal importance with service in munition-making plants, government or private.
3. That labor on the farms be considered as of equal importance with the production of war munitions.
4. That the raw materials for farming machinery and the finished goods be given equal preference by the transportation agencies with munitions of war.

These appeals are being made to Congress and the Federal Food Administration. They deserve consideration with every other effort being made to insure full crops next year. If the machinery manufacturers would accept this time to standardize farm machinery and improve construction to prolong life and lessen draft, every farmer could give enthusiastic support to their demands.

* * *

BETTER SEEDS

We have long argued that improving the seeds of all farm crops offered the cheapest and most effective opportunity for crop improvement. Recently a man in close touch with farm operations of one of the largest preserving industries of this country gave his experience on this point. He supervises thousands of acres of planting. In this work, and always with a view to growing large crops of clean, disease- and insect-free plants, he has spent large sums on study of the soil, of cultural methods, of plant diseases, of insect control. In his language: "We have spent thousands of dollars in employing agronomists, bacteriologists and pathologists. We now feel that much of this was a complete loss. We are now back to the fundamentals and are giving primary attention to the seeds we sow. We have learned that acclimated, disease-resistant seed removes much of our former trouble."

A single example makes his point more clear. A field of 200 acres of cabbage was attacked by virulent cabbage disease. The crop was a failure and only a few heads survived. Examination of plants was made and a few heads that showed absolute resistance to the disease were selected. These were carefully removed to a greenhouse and were permitted to develop seed. The seed resulting was used for growing more seed, and a selective process was maintained until a strain of seed has been developed which is better insurance against crop failure than all of the attention previously given to cultural and cropping methods. A single experience does not establish a rule, but this experience has been closely duplicated so many times that the results at least point to wonderful possibilities. Care in cropping and cultivation cannot be relaxed, and plant diseases and insect injury will always be factors to contend with. But experience shows that it is possible to develop strains of seeds in practically all farm crops that are so perfectly acclimated and adapted to local conditions that they are able to resist the local hindrances to full production.

But comparatively few farmers have the time or facilities to carefully select and breed up such seeds. The work requires time and attention as well as rather skillful supervision. This is provided by organized work under the supervision of the state agricultural colleges in some states. Wisconsin has done notable and profitable work with barley, oats and other grains. Minnesota and Michigan have done extensive work with their grains. New York is working with potatoes and has made extensive studies in timothy and other forage crops. The results of this work are being shared by the farmers of those states in the use of so-called pedigreed seed developed.

* * *

THE COMMERCIAL PRESS

For a number of years city business men and the papers which represent them have been generously supporting measures and movements which tended to increase the products of American farms. Many have doubted whether such interest extended to and included the farmers' individual welfare, or whether it did not stop with the desire to have more products to handle and haul, and which would automatically lower prices and make living cheaper for the consuming public. We have no quarrel with the latter motive provided it is not achieved at the expense of those engaged in farming, but that many of the class referred to have no concern about this is shown by their actions and by the misrepresentations found in trade and commercial journals.

At a meeting of the Produce Exchange held in New York the other day, as reported in a commercial journal, it was stated that "the farmer is the greatest of all speculators and the intitial cause of high prices". They pointed out that under the coddling of the government the farmer's ideas had become so inflated as to be beyond all reason and that it was practically impossible to do business with him. The millers at this convention reported their estimates of the cost of raising wheat and that it is less than $1 per bushel. Their estimates show that the farmers will make a net profit of $816,150,000 on the 1917 wheat crop.

The publication of such wild and inaccurate statements is rank injustice and is harmful to agriculture in that it leaves a wrong impression upon the reading public which knows no better. An editorial in the same paper claims that special favors are being granted farmers while other business is being harassed by regulations and excessive taxes. Another paper states that farmers are so favored that agriculture, the least efficiently managed business in the country, is enabled to throttle everything while making unheard-of profits.

Farmers, what do you think of these charges and of the men and journals which circulate them?

Not only are such papers misrepresenting the farmer's financial standing and responsibility, but just at this time they are casting aspersions on his loyalty and patriotism. Farmers have responded nobly to official declarations as to the necessity for increased food production, and have felt it a patriotic work to produce it, but they naturally resent the charges of being "slackers" and "pro-German" when they ask exemption from military service that they may continue to conduct their farms.

HARRISBURG NOTES

Changes in Grains Urged.—In a few days the State Department of Agriculture will take up work in increasing acreage and production of grains. It is understood that the recommendations will be that the rotation of crops be retained in the southern tier of counties but that more fertilization be made so as to maintain the fertility of the soil. For the central section or, roughly speaking, for counties lying between the line of the tops of Chester, Lancaster and Bedford Counties and a line drawn thru Pike, Lycoming and Mercer, it will be recommended that more wheat be grown. These counties are wheat and corn producers, but leaders think that they can be more successful with wheat than with corn and that there are possibilities for a larger yield. For this section it is also recommended that more attention be given to fertilizers and that new varieties of wheat be tried out. Rye is recommended as the standard crop for the northern tier as there is less chance of it being killed by rigors of winter than wheat. Some experiments with northern varieties of wheat are being made in this section, but for general results rye will be recommended.

Curb Markets.—The plans of the Department of Agriculture to encourage the organization of curb markets on the York and Lancaster ideas are being endorsed in many sections and it is said that a number will be established in eastern towns this fall. The municipal authorities have agreed to give use of streets and in some towns offers of vacant lots have been made for the use of farmers bringing produce for markets.

Crop Reports.—The bureau of statistics of the Department of Agriculture is now talking of the possibility of a 65,000,000-bushel corn crop. The weather has done considerable damage in a number of southern counties and thunder storms have made some farmers uneasy, but the general conditions appear to be good. Potatoes have also gone ahead of expectations, and buckwheat may go over 6,000,000 bushels. Last year it ran about 4,400,000.

Dorsett Going Ahead.—As was to be expected, Auditor General Snyder declined to accept any appointments made by the Secretary of Agriculture until the courts pass upon the Snyder contention that Mr. Patton has a legal title to the office to which he was named afer the Senate had rejected him. The argument in the first move, that to quash the proceedings, will come next month. Mr. Snyder refused to pay E. B. Dorsett and other men connected with the bureau of markets until the Patton position was established, but the work of the bureau is going on, Mr. Dorsett having decided to keep on the job. He is giving attention to the movement of the peach crop which the state has succeeded in selling in car-load lots in a number of places.

Road Situation. — Governor Brumbaugh has not made any appointment to succeed Frank B. Black as state highway commissioner and he has not made any reply to the broadside fired at him. The administration of the Highway Department is going on as usual, but the apportionment of money to counties for construction on the "fifty-fifty" plan is a tabooed subject on Capitol Hill. The department is marking time waiting to see who is named in Black's place and from all accounts some men connected with it do not expect to stay.

Rural Schools.—The situation in regard to teachers in some rural districts is anything but pleasant and is having the effect of hurrying along consolidation plans in a number of sections of the state. Word has just come that in one Lebanon County township nine township schools will be consolidatel in a large building which is under way and that the children will be moved in motor trucks.

The Commission's Session.—The State Commission of Agriculture seems to have made up its mind to swallow the disappointment resulting from the executive veto of the salary bill. At a meeting here last week it was decided to make some effort to get into touch with the men at the head of the extensive farm bureau and agricultural extension work. This conference will be held here in September. The Commission also discussed securing of seed potatoes and wheat in bulk for general sale at cost, buying fertilizer for the same purpose and experiments with new wheats.

Inquire Into Milk.—There is a possibility that the State Commissioners who made the study into the milk situation in Philadelphia and vicinity may take up the situation in Western Pennsylvania. The matter will probably await some nod from the governor. Farmers are asking what they consider a fair price in view of the high value of cattle, feeds and labor and some one is needed to harmonize things.

Hay Short.—The state's hay crop will run very short of last year but when it is considered that 1916 made a record yield is not so bad. The price is up.

The Apple Law.—The new state apple grading and packing law becomes effective in September and arrangements have been made to enforce it. Some voluntary attempts to get a peach grading arrangement have been discussed. On the success of the apple law may depend grading and packing of other produce.—Hamilton, Harrisburg, Aug. 20.

NEW JERSEY NOTES

Exemption Claims. — Claimants for exemption from military service on grounds of agricultural occupations will be required by the New Jersey District Boards to demonstrate that their work is positively necessary. Some of the local exemption boards have not been ready to supply blanks on which to file contentions and proof. All such claims must be supported by proper affidavits, or they will run the risk of being rejected. A full statement must be made of the relation of the man to the industry, of the relation of the industry to the government and the character of the work. It must be shown in detail the acreage of the farm upon which the claimant either works or operates and the acreage devoted to each crop. If the claimant is the employer, he must say how many are engaged by him and the classes of work in which the employees are occupied. If the applicant for exemption is an employee himself, he must state his capacity. Other facts required are number of dairy cows, the quantity of farm or dairy products supplied the markets and the condition of the farm labor market in the locality.

Market Bulletins.—As the result of its weekly bulletins on food prices, the Executive offices have been in receipt of numerous personal assurances demonstrating the practical benefits of this service. Governor Edge says that the bulletins have evidently had some effect in eliminating the lost motion and expense incident to ordering by telephone and requiring delivery rather than individual marketing in the stores. The Governor declares that neither Mr. Hoover's Commission nor the state of New Jersey can help those "who refuse to give up the present wasteful and luxurious methods of buying."

Public Markets.—The latest communities to establish public markets are Plainfield and Somerville, making 12 in all. One of these, however, Atlantic City, has fallen down in the effort, but is expected to revive the market on a permanent basis. In Atlantic City on three mornings the showings made were very good. The first day 16 farmers sold $400 in products. Twenty men sold $800 the second day and the third morning twenty-four loads of produce were sold. The reason given for the discontinuance of the market was the alleged protest of certain merchants to the city authorities, who ordered the market closed. The farmers are understood to be co-operating with the women's organizations of the city for its reopening, and the Chamber of Commerce is favorable. Recent comparisons of food prices indicate that Atlantic City needs the benefit of the public market to reduce the cost of products.

Tomatoes Damaged.—Latest reports from the tomato growing section indicate that the crop has succumbed to the heat wave early in the month. A few days of warm weather ripened the crop almost all at once and the railroads failed to supply cars fast enough to transport the product, so that tomatoes which should have brought $1 a basket sold for 40 cents. It is said that tomato growers who planned to make their profit on the early crop barely paid expenses.

Highway Matters.—Because of the lack of available men, the work of surveying the state for the $15,000,000 highway system has been somewhat impeded, General George W. Goethals, State Engineer, states in his first report to the Highway Commission. More than 50 surveyors are at work, however. The plan of having reconnaisance surveys has been decided upon, as the result. The money to pay for the building of this elaborate system of roads is to be supplied by a direct state tax of one mill on the dollar, and the State Board of Taxes and Assessment has just notified all the local taxing officials that it will not be their duty to levy this new tax. This function will fall upon the various county boards of taxation.

Full Crew Law.—Ten railroads in the state have filed aplications to reduce the size of their train crews, under the act passed at the last Legislative session repealing the Full Crew law. It provides, however, that before any crew can be reduced, the Utility Commission must give its sanction. The crews to be affected by the applications are mostly those operating freight trains. The Utility Commission has fixed Monday, September 17, as the date for a hearing. It is estimated that 350 men will be affected if the Commission gives its approval to the reductions. —L.

NEW YORK NOTES

Work Law Violated.—Attendance officers of the Syracuse schools have been on a tour of farms near the city, and find about one hundred children from 10 to 14 years of age doing regular work on seventy farms, going home nights. Under the existing statute no child under 15 years shall be permitted by work certificates to do this. The farmers say their fruit would rot were it not for this help, and the situation will be explained to the State Department of Education, with recommendations for liberality in the matter.

G. A. R. Declining.—From an original membership of 50,000 the Grand Army of the Republic in this state has dwindled to 13,000. Instead of forming new posts the old ones are giving up their charters. In the rural districts the G. A. R. post is rapidly becoming a thing of the past.

Revised Food Bill.—Amendments to the food control bill embodying the three principal demands of the Governor have been introduced at the special session of Legislature. The amendments would empower the Governor to appoint the members of the proposed commission, the confiscation by the state commission of foods held in storage for speculative purposes, and would enable municipalities to buy and sell foodstuffs on obtaining consent of the commission. Another amendment would provide terminal markets and carries an appropriation of one million dollars. The compromise is far more satisfactory to the people than the original bill, altho it was hoped the commission might be empowered to purchase necessaries.

Curb Markets.—Curb markets are successfully operating in Middletown, Ithaca, Binghamton, Olean and Elmira. Ithaca's market has been a great help to the poor in keeping prices down and has helped farmers to dispose of second-class products which could not have been sold to the grocers. Olean's market has existed three years. The merchants opposed it at first, but when they found the farmers were not competing with them, nor making deliveries, their opposition disappeared. Middletown's market has been very popular with housewives during its two months of existence. Boys with pony carts do a good business delivering baskets to any part of the city for 5 cents.

Potato Growers Confer.—On Friday the potato growers of four counties, with J. J. Dillon, Commissioner of Foods and Markets, and Mr. Ruggles, of the Federal Bureau of Markets, will meet in Syracuse. In Onondaga County alone there are 3,000 acres of potatoes. It has cost $125 an acre to put these into the hills, for seed, labor, fertilizers and spraying materials. The growers want to arrange for a systematic marketing of the tubers and storage without waste. The farmers and government officials wish to dodge the speculators. A series of similar meetings is to be held at Rochester, Buffalo, Hornell, Cohocton, Portageville, Utica, Malone and Plattsburg.

Cheese Tests Started.—Twenty samples of cheese from wholesalers, manufacturers, and cold storage houses were under test in Syracuse last week, by members of the Commission acting under the State Department of Agriculture. Manufacturers declare the new moisture law which pronounces cheddar cheese, twins, flats, daisies, daisy twins, Young American having over 39 per cent moisture to be adulterated, ordering them sold as such, as very unjust. An educational campaign on the moisture question has begun. Heretofore there has been no moisture limit.

Bonding Law Unconstitutional. — The Appelate division of the Supreme Court has handed down a decision declaring the law requiring dealers in milk to take out a license and give bonds for faithful business is unconstitutional. The decision is rendered to recover $29,800 in the case from the Beaker Dairy Company. The decision declares that such a law is class legislation, and does not affect the public; that it is considered very unjust and will drive more producers out of the business and send up the price.—F.

CHESTER COUNTY FAIR

Premium list of the Chester County Fair, to be held at West Chester, Aug. 29-Sept. 1, is a guarantee that this fair will be up to the high standard of past years. There is a full classification of all farm, dairy and live stock products.

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FARM MEETING CALENDAR

Northern Nut Growers' Association, Stamford, Conn., September 5-6.

Farmers' Field Day, N. J. Experiment Station, New Brunswick, N. J., September 6.

Solebury Farmers' Exhibit, Solebury, Pa., September 7-8.

New York State Fair, Syracuse, N. Y., September 10-15.

Inter-State Fair, Trenton, N. J., September 24-28.

Dairy Cattle Congress, Waterloo, Ia., October 1-7.

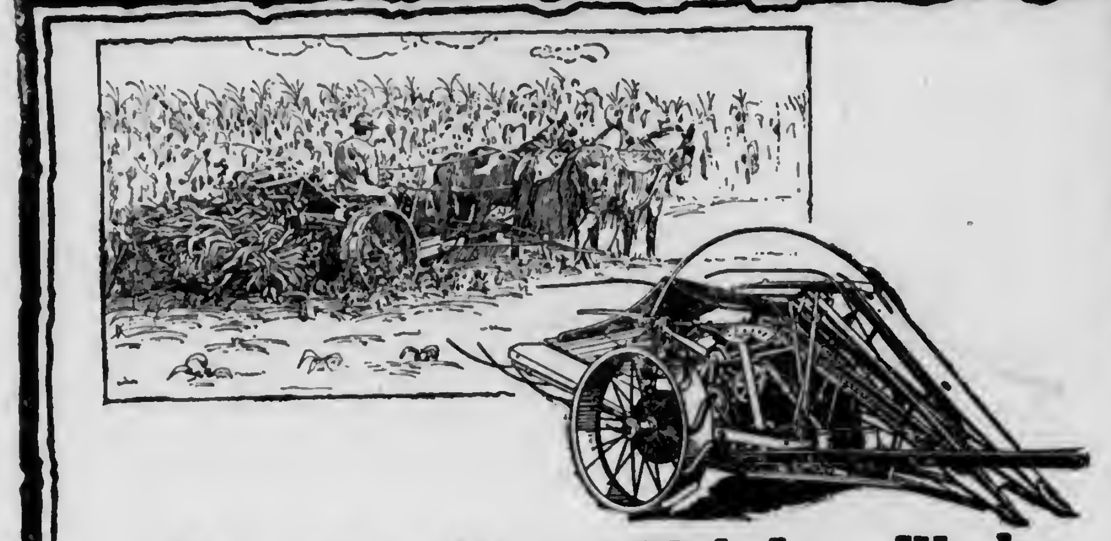
Eastern States Exposition, Springfield, Mass., October 12-20.

National Dairy Show, Columbus, O., October 18-27.

American Pomological Society, Boston, Mass., October 31-November 4.

FAIRS NEXT WEEK

	Pennsylvania	
Butler	N. Washington	Aug.28-31
Lebanon	Lebanon	Aug.28-31
Washington	Arden	Aug.28-31
Chester	West Chester	Aug.29-Sept.1
	New York	
Saratoga	Ballston Spa	Aug.27-30
St. Lawrence	Canton	Aug.28-30
Chenango	Norwich	Aug.28-31
Lewis	Lowville	Aug.28-31
Steuben	Hornell	Aug.28-31
Sullivan	Monticello	Aug.28-31
Tompkins	Trumansburg	Aug.28-31
Washington	Hudson Falls	Aug.28-31
Monroe	Brockport	Aug.28-Sept.1
West Chester	White Plains	Aug.29-Sept.1
	New Jersey	
Bergen	Hohokus	Aug.28-Sept.1
Atlantic	May's Landing	Aug.29-31
	Maryland	
Montgomery	Rockville	Aug.28-31



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The Dairy

BETTER ROUGHAGE FOR DAIRY CATTLE

(Continued from page 1.)

dairy cows and young stock as alfalfa and red clover. Long ago it passed out of the experimental stage, and took rank with the indispensable feeds. Most of the unfavorable results that have been reported were attributable largely to acidity and inferiority of the corn crop. Troubles are sure to ensue if immature corn is siloed, or if mature corn becomes too dry or if the crop is frozen and not cut immediately after it is frosted. When it is necessary to cut corn before it reaches the proper state of maturity it should be allowed to wilt before running it thru the cutter.

When to begin cutting the corn crop for silage is one of the most discussed questions, and one on which there seems to be a great variation of opinion. Some tell us to begin cutting when the corn is well-glazed; others say when it is well-matured. These two terms are rather elastic, for well-glazed and well-matured seldom mean the same to two men. A little study of the nutritive value of the corn plant as it nears maturity is much better than any specific directions. The denting of the corn under normal growing conditions marks the ideal time for cutting for silage. At this time much of the feeding value is still in the stalk. After the corn begins to dent, the work of the corn plant is mainly that of filling the kernels with the starches in the juices of the plant. Silage uses the whole plant, hence the proper time to cut the corn is not when the most food is stored in the plant alone, or in the ear alone, but when the total of the food stored in the two is greatest, yet before the ripening process has turned the starches in the harder parts of the stalks into tough and indigestible crude fiber. Soon after denting of the kernels takes place the development of crude fiber in the stalk results in a loss of palatability and succulence that more than counterbalances any gain in the amount of nutrition in the ear.

To make the best silage it is well to have the corn binder going a day or two ahead of the cutter, so that the corn will be ready for the silo as soon as the crew reaches the farm. Have the cutter adjusted so that the corn will be cut in pieces less than one-half inch in length. The finer it is cut the more firmly it will pack in the silo and the greater will be its food value. Once the wheels of the cutter begin to work every effort should be made to keep the crew moving. A good cutter will take the corn as fast as two men can place it on the table—faster than the same two men can keep the pace. In most dairy communities silo filling is a sort of neighborhood job. There is little danger of too many silos to one engine and cutter so long as added help can save time. Rapid filling results in just as good silage, and if the silo is refilled there is no loss of capacity. Always plan to have the silage distributed over the surface evenly and keep the edges well-packed down to prevent the air getting under and causing decay.

Should the corn crop be past the proper stage of maturity for silage; that is, when the leaves have lost much of their greenness and the grain becomes dented, it is recommended that water be poured over the silage during the filling of the silo. The addition of the water causes the mass to pack firmly in the silo and aids materially in excluding the air. Much the same effect is produced and the nutritive value of the silage increased by mixing green clover or soy beans with the corn before it is cut for silage. Corn run into the silo some time after being frosted is likely to cause trouble when fed. Chemical changes occur that greatly detract from its quality when made into silage. If it is cut immediately after being frosted it will not be appreciably affected. Prime silage depends on using well-grown corn, harvesting at the proper stage of maturity, cutting into short lengths and packing solidly in a well-built silo. — W. Milton Kelly, Erie County, N. Y.

Interstate Producers' Activities

Conditions in the Milk Producing Field

The following statement is issued by the executive committee to the members of the Interstate Milk Producers' Association:

It would seem a proper time to discuss a number of questions that should be frankly considered by the members of the Association, and on the behalf of the Executive Committee this short letter is addressed to you.

The Association needs to have the membership extended as rapidly as possible, so as to include the full number of shippers by October, and so as to increase the monthly income. The field is being covered by our representatives as rapidly as possible, but we need the co-operation of all members, especially of some one in each local unit, who will volunteer in his neighborhood to extend the membership.

The results of the recent price raise have been fairly satisfactory on the whole, but the Executive Committee realizes that there are a number of things that can be improved as time goes on. The further extension of payment by test has caused considerable friction and this will doubtless continue until it becomes a universal practice for this district. Furthermore, the extension of this practice will secure larger returns for all grades of milk, since a guarantee of this kind is always a necessary consideration in all campaigns for increased price, no matter what the commodity may be. It has operated this way in the New York market.

The prospect for the future will so largely be governed by conditions beyond our control that the Executive Committee feels that we must exercise caution. Feed prices promise to be high and we recommend that our members study the markets carefully. The boarder cow looks less and less attractive to keep with corn and beef prices soaring.

The oleo interests are exerting all their powers to extend the use of oleo on the strength of the present campaign for economy. Ignorance of its true food value has cut milk consumption in some quarters.

The uncertainty of sea traffic is interfering with the export trade in dairy products as well as other food supplies. Nevertheless, we are going forward with supreme confidence in the justice and good sense of the American public, believing that if we but state our case fairly and fully, they will respond and prevent the extermination of our dairy herds, a calamity that menaces the health and development of future generations. We must believe in our business and realize its importance to mankind and, furthermore, we must insist that an adequate price is a first step in insuring the safety of this business.

Our office (717 Heed Building, Philadelphia, Pa.) is conveniently located and we desire every member to visit it while in town and make it his headquarters. The office work has been somewhat interrupted but all certificates of stock will be out shortly. We have now three clerks but the correspondence and our other activities have more than kept pace with our increasing facilities. The office is accumulating a large amount of information about market conditions that will become very valuable as time goes on. We are looking up lost cans, checking up tests, settling disputes, planning trips for our field representatives and endeavoring to answer a bewildering variety of questions.

PASTURE IRRIGATION PLAN TRIED OUT IN SOUTHERN NEW JERSEY.

Rules for County and Local Units

Local units of the Interstate Milk Producers' Association may be organized by its stockholders at such places as may be desirable or necessary. Each local unit may elect, at the annual meeting, officers consisting of president, vice-president, secretary, treasurer and, if necessary, county committeeman or committeemen, all to serve for one year or until their successors have been elected. These units shall hold such meetings as members deem necessary, or as may be called by president or the county or district committee. It is suggested that the annual meeting of the Association may be held on the second Monday in November, at which meeting the election of officers may take place.

Each local unit may elect one county committeeman for each twenty-five members, or major portion thereof (but each local unit shall be entitled to one county committeeman). The county committee shall organize at the call of committeemen from two or more local units. It shall be the duty of the county committee to promote the dairy interest held in common by all milk producers of the county. It shall further be the duty of this committee to organize additional local units.

The county committee shall elect officers consisting of a chairman, vice-chairman, secretary and treasurer. It is suggested that they shall be elected at the meeting held on the Saturday following the second Monday in November, and shall serve for one year or until their successors are elected.

Subscription for stock shall be forwarded by the Secretary or other duly authorized agent in each local unit. All agreements for the sale of milk and all grievances shall be reported to the central office of the Association for action by the Board of Directors or the Executive Committee. Expenses of County and Local Units shall be met by such annual or other dues as the members thereof may agree upon. They shall be collected by the local units, and the amount due the county organization remitted to the Secretary thereof.

The County and Local Units may make such additional rules for conducting their affairs as they may deem right and proper, provided the same will not conflict with any of the provisions of the by-laws of the Inter-State Milk Producers' Association, or of the laws under which it was granted a charter.

Milk Tester in Field

The Interstate Association plans to have an official milk tester in the field in the near future. This tester will check up on tests given by dealers, and is expected to help meet the objections now raised as to tests. The tester will work under the supervision of the Executive Committee.

New Organization Work

Organization work is making steady progress. Juniata County is organized and will be represented at the next meeting of the Board of Directors. Blair County started out with 40 members and prospects are most favorable for a large county unit. Organizers are working in Cumberland County with most favorable results. Three meetings are arranged for in Delaware and the Peninsula next week where organization work will be pushed hard.

Cheaper Dairy Feeds

Announcement is made that the Federal Food Administration plans to give early attention to marketing of dairy products. As present prices of products are barely meeting cost of production and low prices have already threatened the dairy industry thru sale of dairy herds, it does not seem probable that price reductions can be contemplated. The most likely avenue for constructive work is in cheapening the cost of feeds, and particularly the concentrated feeds. Such an effort is forecasted in a report from George E. Haskell, chairman of the dairy advisory committee in the Food Administration.

This report predicts lower feed prices as a result of recent regulations imposed upon the exports of concentrated feeds. This will affect cottonseed meal particularly which has been largely exported in the past. Arrangements have been made whereby feeders, preferably organizations of feeders to buy in carload lots, may secure cottonseed meal direct from producing centers. For addresses write to Sec. Robert W. Balderston, of the Interstate Association.

Why Feed Your Cows Money?

The present cost of corn and oats makes grain-fed cows a loss instead of a profit even if the grain is raised on your place. Feeding grain is like throwing money into the feed box. Sell your home-grown grain and use

INTERNATIONAL SPECIAL DAIRY FEED

It costs less and will put your dairy business far over into the profit column. Cows like International Special Dairy Feed. It combines molasses, which makes it palatable, with selected grain products and cotton-seed meal. It stimulates the appetite, keeps the bowels open and **increases the milk flow.** Cows fed with International Special Dairy Feed average one to two quarts of milk more daily. Used alone or with home-grown feed, it means more milk—more money for you.

Order Your Winter Supply Now

Our mills are running day and night to keep up with the demand. We shall have no surplus next fall and winter. Remember, too, last winter's car shortage. There will probably be a bigger one this coming winter.

Go to the nearest International dealer and place your order **today.** Accept no substitute for International Special Dairy Feed. Write us if there is no dealer near you. Get your winter's supply delivered and you need not worry about shortage of supply or transportation when you need feed the most. ACT!

International Sugar Feed Co.

Minneapolis, Minn.
Mills At Minneapolis and Memphis

Prompt Deliveries on Unadilla Silos!

There is yet time to place your order and have it delivered before corn harvest. We can take care of you----*if you act now.*

Defend Your Profits with a Unadilla Silo

Corn Silage (*even that made from an immature or frosted crop*) is the best and cheapest milk and meat producing roughage known. Saves half the hay, and high-priced grain feeds. But silo prices have advanced, and are going higher. Here's a coupon, however, which will save you money on a Unadilla Silo. Use it today. It does not obligate---but protects you. We are prepared for late season orders.

Unadilla Silos are the choice of thousands of the best dairymen, and county, state and U. S. officials.

Don't delay another day. Send the coupon.

UNADILLA SILO CO.,
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MAIL THIS PRICE PROTECTING COUPON TODAY!

Date 1917

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UNADILLA SILO CO.,
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Send me catalog, prices and terms. It is understood that if I place my order before Sept. 30th, it will be accepted at July prices, regardless of any increase which may be made between this date and October 1st, 1917—but I am not obliged to buy.

The President Says:

"It is of the most imperative importance that everything possible be done and done immediately to make sure of large harvests."

Save Your Corn Crop

All of it. Let's have no waste. You don't have to worry about getting your silo as we are still in position to make *prompt shipment* on our silos and ensilage cutters.

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LIFE-TIME-SILOS

are built to meet the exacting farmer's needs. Best in design, material and workmanship. Have every desirable feature a silo should have and embody the "know how" acquired through more than twenty years experience in silo building.

Wood Stave Silos—Your choice of four of the best time-defying woods. Kalamazoo Silos are manufactured complete ready to set up. Quickly and easily erected by inexperienced home labor. All Kalamazoo silos are made with Galvanized Steel Door Frames and continuous doors, forming a safe ladder entire height of silo.

Write today for our free descriptive booklet. If interested in an Ensilage Cutter, ask for Kalamazoo Cutter catalog. *Easy payments, if you wish.*

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Farm Products Prices and Prospects

CONTROL OF WHEAT

Food Administration Plan of Stabalizing Wheat Prices

Control of wheat, flour and bread will be the first to be inaugurated by the food administration. The disturbance to the world's commerce and short supplies have caused a greater disruption of normal markets for wheat than for any other cereal. Because of abnormal conditions the Administration will license all elevators and mills and where the marketing machinery has broken down, the Government will begin immediately to purchase wheat at the terminals, being prepared to purchase the whole crop. In this way it is expected to maintain a fair price to the producers of wheat and to see that the millers and middlemen do not unduly enhance the price to the consumer. This scheme of control is necessary, it was said, because of present condition of wheat market.

It must be evident that the U. S. Government can more justly deal with the situation than any other agency. Therefore, the food administration, in order to eliminate speculation, has determined to take the following course:

First.—All elevators and mills of over 100 barrels daily capacity will be required to take out a Government license, the conditions of this license to be: That only reasonable and customary charges shall be made for warehouse service. That no wheat shall be stored for more than 30 days without the approval of the Food Administration. That certain information as to receipts and shipments shall be supplied regularly.

Second.—The grain exchanges are being asked to suspend all dealings and quotations in future wheat. These regulations will come into force on September 1. While farmer co-operative elevators are expected by the Food Control Law, this, however, only applies to mutual concerns and not to stock companies, and in any event owing to the real advantages of joining the plan, none are likely to stand out.

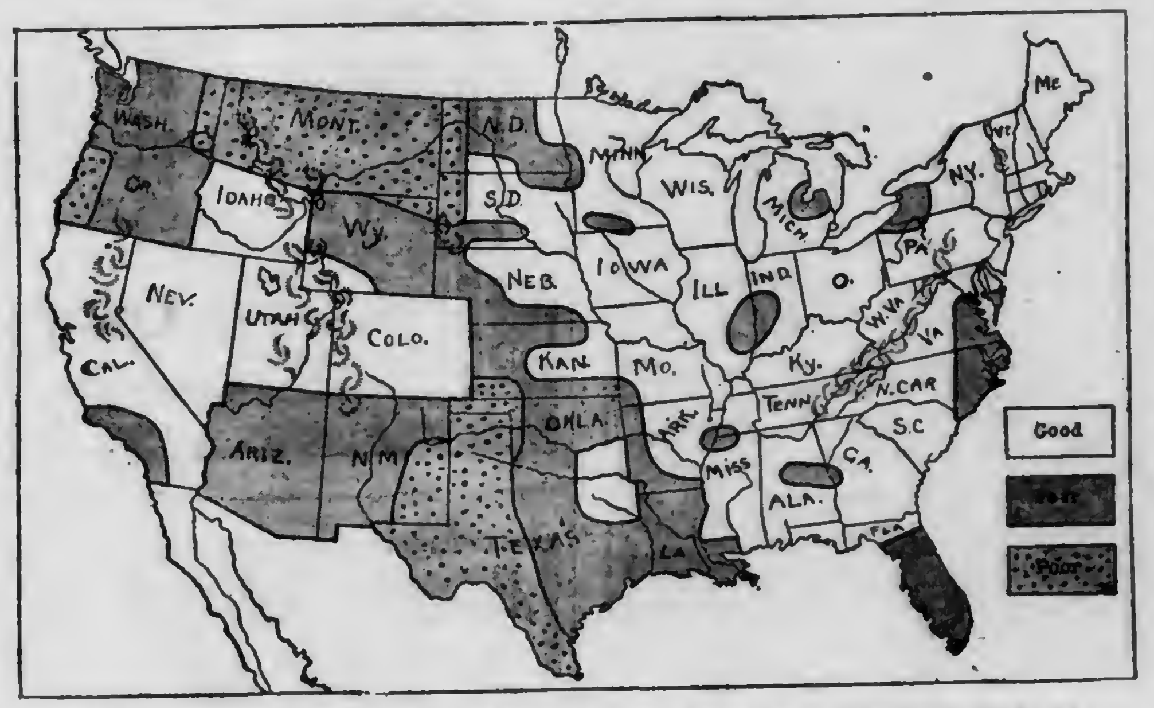
Purchasing Agencies

In substitution of the broken-down marketing machinery, the Food Administration proposes to open agencies for the purchase of all wheat at the principal terminals, carrying on its transactions with the usual dealers. It is prepared to take the whole harvest if necessary in order to maintain a fair price and will resell wheat for export in such quantities as we can afford to part with in protection of our own people on one hand and to sell on the other to the millers for domestic consumption. The Administration will make no charge except a nominal percentage to cover costs of the operation and arrangements will be made which will assure the Government against loss.

In order that nothing shall be left to mischarge a properly constituted and independent auditing committee is to be set up which will check all transactions at every point. The Food Administration under these arrangements would have a large influence in affecting the price of wheat. With a view to determining a fair price the President has approved the appointment of a committee to be selected from representatives of the producing sections and consuming elements in community. (Committee named on page 6.)

To Determine a Fair Price

This committee will be assembled under the chairmanship of President Garfield of Williams College and it will be the duty of this committee to determine a fair price for the 1917 harvest. Upon the determination of this fair basis it is the intention of the Food Administration to use every authority given it under the bill and the control of exports to effect the universality of this fair basis thruout the whole of the 1917 harvest year without change or fluctuation. It should thus be clear that it will not be to the advantage of any producer to hold back his grain in anticipation of further advance, for he will do so only at his own cost of storage and interest, and if it is necessary for the Government to buy the entire wheat harvest in order to maintain this fair price in protection of the producer it is intended to do so.



SHOWING GENERAL CONDITIONS OF CROPS AND BUSINESS JULY 20.

Furthermore, the holding of wheat or flour contracts by persons not engaged in the trade, and even when in trade in larger quantities than is necessary for the ordinary course of their business, is unlawful under the act, and such cases will be prosecuted with vigor and such holders are advised to liquidate their contracts at once.

By the above arrangement the food administration believes that it will stabilize the price of wheat thruout the year; that the hazards of operation due to fluctuating prices which are imposed upon the milling and distributing community will be eliminated and therefore the business can return to the normal lines and the normal margins of profit and that not only will the price of wheat but the price of flour be stabilized and that it should enable the country to arrive at a stabilized price of bread.

CROPS AND BUSINESS CONDITIONS

No Apprehension as to Harvest or Business Conditions

Not only are abundant crops promised in a report just issued by the Committee on Statistics and Standards of the Chamber of Commerce of the United States but it goes on to say a "most encouraging and significant feature of the situation is the general confidence of the business world in the future, the large volume of business, and the generally sustained conduct of commercial activity in the midst of war's alarms and a future which is beyond any man's ken." It declares for some months past the country has been afflicted with alarmists who sent forth dire prophecies as to the likelihood of actual food famine in this nation.

Better Wheat Crop Promised

The total yields of both spring and winter wheat combined will in all probability be greater than the results of 1916, the National Chamber report continues. This is said to be due largely to increased production per acre, which after all is the real measure of crop outputs. In all sections with the exception of the Pacific Coast the winter wheat is said to have exceeded earlier expectations, both as to quality and yield, and many fields that were given up entirely have brought forth bountifully. Spring wheat, starting out under most favorable conditions, has gone back somewhat owing to prolonged dry weather, in the northern portion of North Dakota, westward to the Ocean, and in some sections of the Pacific slope. Elsewhere it is doing very well and if it be spared the fatal blight of black rust which in August last year wrought such damage, it promises a yield of 125,000,000 to 150,000,000 bushels more than last year.

Increased Corn Production

The outlook for a record-breaking corn crop is unusually good according to the report altho there are possibilities which may somewhat reduce the enormous expected yield. "In many cases, owing to the late spring, cotton was plowed up and corn planted in its stead," says the report. "For several years the South has been raising about 35 percent of all the corn grown in the country, and bids fair this season to increase that proportion. If corn fulfills its present wonderful promise, it will be due very largely to unceasing industry and intelligent cultivation by the American farmer. There was never a crop handled with greater and more watchful care. Its growth and yield this year is the best answer to that constantly unfounded statement as to the superiority of the European agriculturist over our own domestic product, when the facts are all the other way."

Banner Potato Yield

The production of potatoes, both Irish and sweet, will probably exceed that of any previous year, according to the National Chamber report. Tobacco is in general a good crop. In spite of handicaps the hay production will be large. There is an unusually large crop of beans and peas.

With the Live Stock

The cattle industry is good, altho cattle on the ranges in eastern New Mexico and in Western Texas have suffered severely from lack of rain. Hogs as a rule are doing very well. The dairy industry is a growing one in practically every section, and the value of poultry as an adjunct to the farm is being recognized all over the country. The condition of the sheep industry is reported as excellent, while wool commands the highest price known in many years. The demand for horses is reported good with high prices, and this is equally true of mules.

NEW YORK CABBAGE AND ONIONS

The following report on condition of the cabbage crop in New York is issued by the U. S. Bureau of Crop Estimates. Cabbage planting in New York state usually begins about June 15th and is completed by July 4th. Continued cool, wet weather held back the growth of plants so that most of them were not ready to set out before June 30. Continued rains during July further retarded transplanting and cabbage was still being set out as late as July 27th and the crop is now from two to four weeks late, the time of planting and present stage of growth varying widely in the same section.

Many plants were lost in the seed beds, owing to wet weather, maggots, flea beetles and club root, and the supply was insufficient in some sections, but it is believed that shortage of plants did not affect the final acreage more than in previous years. The wet weather which retarded cabbage planting also hindered planting of other crops, especially corn and beans. In many localities cabbage was set out by hand, when planting of other crops was not possible, and, when the season became too late for corn planting, land intended for that crop was put into cabbage or buckwheat. Much of the cabbage is planted on low ground and some fields intended for this crop did not become dry enough to plant. Also, cabbages set out were covered by water and destroyed, but where this did not occur, almost all plants lived and are now in good condition.

The onion crop has suffered from the wet weather during the past month. This crop in New York is grown almost entirely on muck land which often is poorly drained and the heavy rains have washed out or otherwise damaged a considerable acreage. Onions during June showed a tendency toward turning yellow and this condition has increased and growth has been checked over large areas. While this is called blight by many growers, others claim it is not blight, but a condition due solely to prolonged soaking, followed by the action of the sun on the plant. The heavy growth of weeds due to the rain has also greatly increased the labor of caring for the crops and has caused some onions to be plowed up and the land planted to other crops. The general condition is reported at 50 to 70 percent of normal.

Several millions of dollars leave New York state every year for the purchase of "western" horses. Some of this could be kept here if there were more horse breeders in the state.

Poultry

THE LAYER EXTRAORDINARY

Egg Capacity Depends Upon Crop Capacity

The capacity of the hen's crops, or in other words her ability to consume large quantities of food, is of the utmost importance in developing the layer extraordinary. It is even more important than breeding because without large crop capacity even a hen with ancestors of record egg production will never develop more than ordinary laying ability.

Breeding is, of course, important and necessary to the development of heavy layers, since it gives the poultryman the nucleus which will with proper care and feeding develop the layer extraordinary. But the best of breeding will amount to nothing if we neglect to develop the hen's capacity for food.

In developing the capacity of the layer the poultryman must start with the chick when hatched and feed with the desired result in view from the very first. It is too late to try to develop the hen's capacity for food after six months of age, as the abilities of the fowl are by then firmly fixed.

It is important, in feeding to develop the capacity of the chick, that we do not injure the fowl's digestive organs. Thus for the first six weeks the chief endeavor should be to get the chicks thru this critical period without digestive troubles or setbacks. During this time one of the very best things that can be fed the chicks with a view to developing their crop capacity is dry wheat bran. Kept before the chicks in hoppers from the very first it is remarkable how it will enlarge the crops of the chicks and without the least bad effect. Chicks that have had dry wheat bran before them all the time from the first will at eight weeks old have crops of twice the size of ordinary chicks of their age.

At eight weeks old it is best if possible to allow the chicks free range so as to develop their appetites for food to the utmost. From two months of age until mature the chicks should have all they desire to eat as it is a hard matter to overfeed growing chicks on free range. In the line of developing the capacity of the crop we have found it well at this time to feed soaked oats three or four times a week in such quantities as the birds will consume in ten or fifteen minutes. The soaked oats not only helps expand the crop, but is also an excellent food for growing chicks in point of developing their frame.

Another thing that is a great help in developing the crop capacity of the growing chicks is feeding steamed, short cut clover hay. The only successful way to feed this is to mix the steamed hay in the mash, using about four buckets of mash to every bucket of the steamed clover. The moisture in the steamed clover should make the mash sufficiently moist for feeding. In order to get the chicks to eat the proportion of steamed hay mentioned, it must be gradually introduced in their moist mash beginning when the chicks are six weeks old and gradually increased in quantity until the full amount is fed by the time they are ten or twelve weeks old. Introduced in this manner there will never be any trouble experienced in getting the chicks to eat it. Of course, a good grade of clover or alfalfa hay should be used, preferably second crop, and it should be cut into quarter-inch lengths. It is unadvisable, however, to feed the soaked hay before the chicks are at least six weeks old as digestive troubles might result.

The method given is the result of years of experience in rearing flocks of chicks for layers and in the line of developing flocks of heavy layers has never been excelled. Of one thing we can be sure, if a hen's capacity for food is small her egg production will likewise be small; therefore, if we would have heavy egg production, we must develop the capacity of the hen's crop by proper feeding from chickhood to maturity. — J. Raymond Kessler, Chester County, Pa.

A TIMELY MOVE

Resolution Passed Unanimously by the Eastern Section of the American Association of Instructors and Investigators in Poultry Husbandry, assembled in Conference at Amherst, Mass., July 28, 1917.

Whereas, the situation confronting the poultry producers and consumers of the nation demands wise, patriotic, immediate and aggressive action and, whereas, the abnormally high price of feed has caused and is causing extensive and unwise sacrifice of valuable poultry which, if continued, is certain to result in seriously reducing the supply of breeding stock and poultry products, thus resulting in loss to both producer and consumer and, whereas, the economic life sustaining values of poultry and eggs in the feeding of the nation requires that the normal supply be maintained; therefore be it

Resolved that we, the members of the American Association of Instructors and Investigators, in conference assembled, do hereby appeal to all who keep poultry to meet the situation by greater efficiency which should result in producing more eggs and poultry meat from the present amount of stock, or the present amount of eggs and poultry meat from less stock, in the belief that the poultry producers who practice the most approved methods—better stock and management—will be able to meet their national obligation without seriously sacrificing their financial interest until the close of the war when it is confidently believed that there will be an unprecedented demand for breeding stock and poultry products from this and foreign countries, and at which time the cost of production on account of cheaper feed, labor and equipment will be such that poultrymen will meet a just reward for their faith, courage and loyalty in meeting the present critical situation.

Resolved, that the resolutions be given wide publicity thru the Food Supply Commission or similar agencies in the various states, and the press.

THINGS I HAVE LEARNED

The best layers have a wide spread between the end of the breast-bone and the pelvic bones. When I can place four fingers between these bones I am certain that the hen is a good layer. When two fingers will fill the space, I am equally certain that the hen is not worth house-room. A wide spread between these bones denotes great development of the egg organs and plenty of room for the formation of eggs.

My experience is that the best treatment for lice on both old birds and chicks is an application of blue ointment. For mature birds, equal parts of the ointment and vaseline are used. For chicks, one part of the ointment to two parts vaseline is the proportion. The ointment is applied around the vent and two applications a year will keep the stock free of the pests.—T. Z. R.

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A SPORTSMAN often has to travel a long distance nowadays to get a shot at big game.

The Remington UMC Big Game Rifle (*whether slide action, hand operated repeater or the autoloading model*) will take care of any kind of game found on this continent. Handles easily—is as comfortable to carry as to shoot—is free from delicate parts and complications.

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Sold by Sporting Goods Dealers in Your Community

Clean and oil your gun with REM OIL, the combination Powder Solvent, Lubricant and Rust Preventive

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Largest Manufacturers of Firearms and Ammunition in the World
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Oliver the Choice at Fremont

At the National tractor demonstration at Fremont, Oliver tractor plows and other Oliver products were drawn by forty-two different tractors. The same reason that caused sixty-five per cent of the tractor manufacturers not making plows to pull Oliver products in order to secure the best results from their tractors is the reason why you should insist upon an Oliver implement for use with your tractor.

Oliver tractor plows are furnished with two, three or four bottoms for light tractor use; in larger sizes for heavy tractors.

The Oliver tractor disk harrow and roller pulverizer are especially adapted for tractor hitch.

Tell your plowing needs to the nearest Oliver dealer or write us for information on the plow best adapted to meet them.

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Old Tires Retreaded

By having your old tires retreaded, you save over ½ of the price of a new tire. In addition we guarantee them to give service and satisfaction.

Our DOUBLE TREAD TIRES are practically puncture proof; for they contain a double layer of fabric and as much rubber as a new tire.

Send us your old worn tires. We will not only retread them but guarantee them at these little prices.

Sizes	Price	Sizes	Price
30x3	$5.50	36x4	$8.50
30x3½	$6.00	34x4½	$8.50
32x3½	$7.00	35x4½	$9.00
33x4	$8.50	36x4½	$9.00
34x4	$8.50	37x4½	$10.00

We also carry a complete stock of Double Tread Tires—which we guarantee at these low prices.

Sizes	Price	Sizes	Price
30x3	$6.50	36x4	$11.00
30x3½	$7.50	34x4½	$12.00
32x3½	$8.50	35x4½	$12.00
33x4	$10.50	36x4½	$13.00
34x4	$10.50	37x4½	$13.50

Add $1.00 to the above for Non-Skid Tires

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Send for descriptive booklet and price list. Good territory open for agents.

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Made from the best meat scraps, carefully sterilized under pressure.

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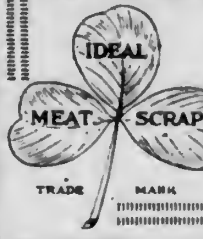

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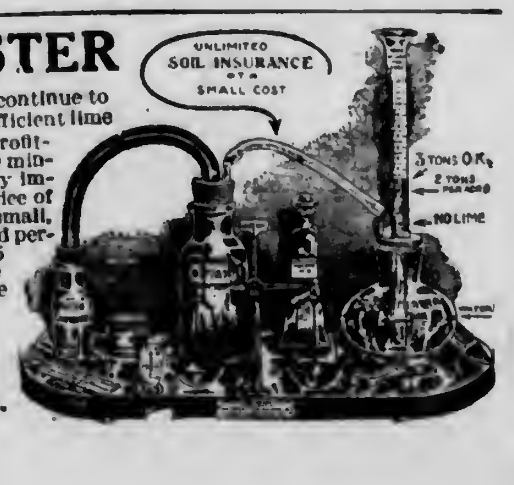

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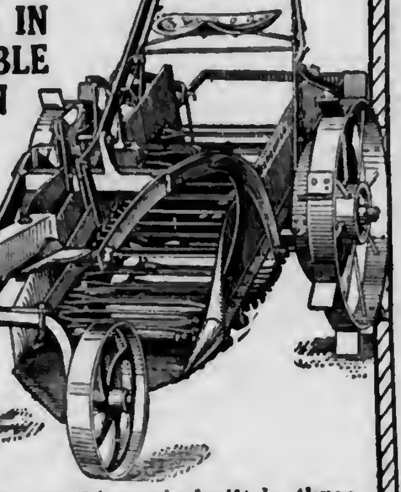

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PENNSYLVANIA FARMER
261 S. Third Street, Philadelphia, Pa.

The Voice of the People

This department is reserved for use of our readers to discuss problems and matters of general farm interest. Write your views and comments briefly on any question of social, economic or educational importance and thus share them with others. Such articles should not exceed 200 or 300 words. Publication of such articles does not signify editorial endorsement or agreement.

THE DIFFERENT FAIR

I have just been reading "Fair Goer's" article in your issue of July 28. I wonder where the poor man lives that he has been so shocked by sights and sounds at these county fairs. I wish he would come to our Juniata County Fair. I have been there every year since 1864; 52 years in succession and I have had more money when I came home for the last 40 years than I had when I went, and I was not a stock holder. I bought two shares of stock about 25 years ago but I was cheated out of them. This fall I bought two for $52.50.

We have about 40 acres of ground, well fenced and with good buildings. A well of water is piped in from town. I have never raced but have exhibited colts, horses, sheep, hogs, chickens, and other stock. They pay their premiums on the last day of the fair. They are fooled occasionally in a midway show, but you can look at all without a veil.

Our county fair is no menace to morals, good farming, sobriety or honesty. Our association does not cater to the crowd. The dancing girl and immoral show does not come now. Our fair is getting cleaner every year. "The young farmer and wife and little girl" won't see the paddle wheel, etc., here. It departed years ago. They do have some rifle practice sometimes and I have seen our bankers and our richest men try their skill. The fortune teller was also buried years ago, before she ruined anyone. We have a few fakers, but they soon get out.

Yes, we love the horse, and if the man is not a good judge he can not tell which is the best horse. There are tricks of which the Fair Goer knows nothing. There are nearly always some inferior exhibits but there always will be in unrestricted competition. Fair Goer may not know a good Berkshire hog when he sees one, and he must remember that you can not tell a good cow by looking her in the face. We send to other counties for our judges and there is no trouble with related or locally prejudiced judges.

We do not have any strong drink in our county fair but some fellows bring a supply along. If a man seems weak in the knees, we have two or three state constabulary there, and they show him the outside of the gate. If Fair Goer will come to our fair, I will show him where he can get as clean a meal as he can get at home. Two or three churches have lunch counters, serving chicken soup, coffee, ice cream, etc. We have "comfort stations" and they are not out in the woods, either. We have men and women attendants hired to see that all things are kept clean. I hope Fair Goer will visit our fair, Sept. 12-15 and I will show him around.—E. P. Graham, Juniata Co., Pa.

NEED PARENT CLUBS

Conserve Child Interest

Last week I sent a letter of protest to Philadelphia daily paper because of its attempt to deceive our youth into thinking that brutality and anarchy are laudable enterprises; for that is what they are doing thru an ex-prize fighter's letters telling young men how they may evade the New York law after November 15th.

I prefer to write letters of commendation, for it is a pleasant task. I wish to thank you for the three short stories you have published since the close of that long serial. They are full of human interest and have the added value of stimulating thought that will lead to better ideals in country life. Since the magazines now are devoted mostly to love and adventure, it is refreshing to have some stories that deal with interesting and yet practical phases of life. As a teacher, I wish to commend for our young people such stories as will help them to know themselves better, inspire them to choose wisely and gain that power of self-control that will enable them to be entirely on the human plane, instead of just seeing what is right for the race.

Every community should have a club of fathers and mothers for the study of civilization and the laws of human conduct. In this way we could soon revolutionize the school, the church and society, and secure those things which we now admire, but which we can not grasp and utilize because of our devotion to tradition.

I commend you for commending that little book in the last issue, "The Rural School from Within", which should be read by parents as well as teachers. Scott Nearing's "Community Civics" and "The Three Gifts of Life" should be in every home of the land. With old age warning me that I must soon leave the work of teaching and the forces of evil multiplying on every side to lead our youth astray, I rejoice when I find those who are studying the interests of our children, and seeking to conserve those interests.—J. B. Doty, Cumberland Co., N. J.

TWO-YEAR COURSE IN AGRICULTURE

What It Means to the Young Farmer

Efforts are being made to enroll 150 young future farmers in the two-year course at the Pennsylvania State College. It is said that "the proof of the pudding is in the eating". A few words regarding the course from one who has tasted of the "pudding" may not be amiss.

I am not going to dwell on the course itself, the prospective student can get details of that by writing to Mr. W. W. Wood at the Horticultural Building, State College, Pa. There is an old rule in breeding that "like begets like" and this is equally true whether applied to plants, animals or thoughts. Success thoughts will surely beget success habits for "as a man thinketh so is he". Success is not attained alone by acquiring callouses on the hands and feet unless the brain works intelligently and in harmony. We must think about and plan our work intelligently. A two-year course at State will "ground" you in the fundamental principles of modern agriculture.

What is work without inspiration? This inspiration is one of the advantages you will gain at State, for who could come in contact with leaders in agricultural progress, as the student at State will, without gaining a broader viewpoint of and a greater respect for his life work? Among the names that come to my mind as I recall my student days at old Penn State are Hunt, Watts, Wright, VanNorman, Cochel, Buckout, Alva Agee (who holds an especially high place in the heart of every two-year man who knew him), and last, but not the least, dear "Aunt Margaret" MacDonald, who still holds say in the agricultural chemistry department at State. Many of these men have since answered the call to other and higher positions, but State is proud of them all.

Then think of the benefits to be derived from the association with many other young men all gathered here to drink of the same fount of knowledge. This is not to be overlooked as many lifelong friendships will be formed.

What does State demand in return for what she offers you? Just this: That you, while at State and afterwards, live up to the best traditions of State College. You are expected to do all you can, whenever called upon, to help your Alma Mater to live up to her traditions; to put your shoulder to the wheel and push for a still greater State; to help in whatever way you can when called upon.

The writer of these lines has just been "called to the colors", and he will be in the first "draft". He might justly claim exemption but, barring the possiblility of rejection because of physical disqualification, he will in a short time be in the service of the nation. What will State do for me then? She will help me to go clean, to fight clean and, if necessary, to die clean "that the world may be made safe for democracy".—A Penn State Man.

THE FARMER AND PRODUCTION

Your paper is a welcome visitor to our home. I enjoy every article and am proud of you that you set so high a standard for the farmer and his family. It greatly amuses me to read some of the papers that formerly felled "old hay seeds" to the ground, now landing Mr. Farmer to the skies. One thing is certain, if the farmers failed to send their crops to market for one short year, the cities would then realize what "old hay seed" are to them. Too many farmers fail to think enough of their business. Of course, it is laborious, but no more honorable calling can be found. I hope you will continue to encourage our young people with a high estimation of so great and worthy a business proposition.

Too often prices are below what they ought to be. But farmers must have money to run the business. Cash is needed when crops are ready, so take it, or nothing. Every other business man sets his own price on his goods, but the farmer lets others do it for him. He has no alternative. If he sets his own price there comes up such a howl from some of the papers that the farmer is starving the people and swindling them, and dear knows what he is not doing. How about the milk business? Some farmers settled that very quickly by selling off their dairies, and we will soon see the result.

I enclose a copy of an article cut from a local newspaper. (An appeal for continuation of the liquor business on the ground of continued supply of dairy feeds, such as brewers' grains, brewers' malt sprouts, etc.) If people paid 25 cents a quart for milk it would be of far more value than 25 cents' worth of beer, and never leave bloodshed or a fight after it. I cannot understand that such an appeal could be issued by farmers. It is a disgrace to the business. If farmers bought the malt and had it ground they would not need brewers' refuse that was once thrown away. What did the poor farmers do for feed years gone by? They raised their own good grains and grass and plenty of it, and they can do it again.—June, Pemberton, N. J.

Live Stock

RAPID GAINS ON TANKAGE AND CORNMEAL

During the past winter several pig feeding experiments were conducted by the Pennsylvania Experiment Station to determine (1) the relative values of tankage, linseed meal and chopped alfalfa hay as sources of protein; and (2) to compare ear corn with shelled corn and cornmeal (ground shelled corn) as to cheapness of gains.

Two lots of seven pigs each, averaging about 110 pounds live weight, were used. The feeding period covered 84 days. Pigs fed on ear corn and tankage made 110 pounds gain at a cost of $7.82. These figures are based on corn at 80 cents a bushel and tankage at $2.75 per 100 pounds. The cost of 100 pounds of gain on a ration of cornmeal and tankage was $8.65, at the price of 5 cents a bushel for shelling the corn and 5 cents a bushel for grinding; the cost of 100 pounds of gain with shelled corn and tankage was $8.45. The largest gains were made by pigs receiving cornmeal and tankage, an important point to consider when rapid gains are desired.

The experiment indicates that when corn is 80 cents a bushel, ground corn is not a profitable hog fattener, a conclusion contrary to results of previous experiments conducted at the college. Linseed meal when fed dry did not prove a satisfactory protein feed for hogs. Chopped alfalfa was unsatisfactory because of the sharp short portions of the stem.

FIGURES ON WOOL SUPPLY

Federal Bureau of Markets Arranges for Quarterly Reports

For the first time in this or any other country a survey has been made of the wool stocks on hand, and the figures representing the holdings June 30, 1917, have been made public by the Bureau of Markets of the U. S. Department of Agriculture. According to this summary there are 370 million pounds of grease wool in the hands of dealers and manufacturers who reported; 47 million pounds of scoured wool; 29 million pounds of pulled wool; 23 million pounds of top; and 18 millions pounds of noil. About 56 percent of the grease wool, 62 percent of the scoured wool, and 45 percent of the pulled wool was reported by manufacturers, and the remainder by dealers.

Since these are the first figures of the sort, the department says it does not feel justified in making any statement as to the relative size of the supply on hand. It is assumed, however, that the war is making unusual demands on the wool supply. Comparisons can be instituted when future reports are issued. The next survey will be made September 30, 1917. Each succeeding one will give a comparison as to all classes and grades of wool, tops and noils, both foreign and domestic, held by dealers and manufacturers.

SWEET CLOVER EXCELLENT FOR HOGS

Sweet clover has proved to be an excellent pasturage crop for hogs. It is usually seeded alone and pastured for two seasons. The hogs may be turned on the fields the first year as soon as the plants have made a 6-inch growth. From this time until late fall an abundance of forage is produced as pasturing induces the plants to send out many tender, succulent branches. Pasturing the second season may begin as soon as the growth starts in the spring.

An acre of sweet-clover pasture ordinarily will support 20 to 30 shoats, in addition to furnishing a light cutting of hay. For the best growth of the hogs they should be fed each day 2 pounds of grain per hundredweight of the stock. Hogs are very fond of sweet-clover roots and should be ringed before being turned on the pasture. The tendency to root may generally be overcome by adding some protein to the grain ration. Meat meal serves this purpose very well.—Dept. Letter.

VETERINARY

Shoulder Lameness.—My ten-year-old mare is lame and I am inclined to believe that the lameness is in shoulder. I have applied home remedies, but they do not seem to relieve her. What can I do to correct this lameness? B. K. A., Donaldson, Pa.—Clip hair off shoulder and apply one part powdered cantharides and four parts lard every two weeks, but do not expect her to get well if you continue working her.

Indigestion—Colic.—My five-year-old horse becomes uneasy at times. At such times he paws and switches his tail. He also becomes costive at such times. M. K. S., Grateford, Pa.—Careful feeding, regular exercise and keeping the bowels open will perhaps prevent future attacks; besides, your horse should be watered before feeding him grain, and never watered until two hours after he has eaten his corn or oats. Let him eat enough grass to keep his bowels loose. Mix together equal parts of cooking soda, salt, ginger, gentian, red cinchona and charcoal and give him a tablespoonful or two at a dose in feed, two or three times a day.

Pinworms. — I have derived much benefit from your veterinary column and now come to you for advice. My young mare is troubled with pinworms. I have applied and given her home remedies, but they fail to relieve her. What remedy do you recommend? B. K. A., Gilbert, Pa.—After washing out the bowels with a considerable quantity of tepid water, then wash out with one part coal-tar disinfectant and forty parts tepid water, three times a week.

Heaves.—For the past month or so my young mare has been showing symptoms of heaves. What can I give her to correct this trouble? B. J. W., Normalville, Pa.—Feed no clover, or dusty, musty, badly-cured fodder of any kind. A little well cured timothy once a day is all the roughage she should have. If she is a ravenous eater and pot-bellied, bed her with shavings or sawdust. Grain or grass is the best summer feed; grain and roots the best winter feed for an animal in her condition. Give her one dram extract lobelia, one dram muriate ammonia, ½ dram fluid extract nux vomica and three drams Fowler's solution at a dose in feed, three times a day.

Paralysis.—I would like to know what can be done for a cow suffering from paralysis. She is down and unable to get up. She has a fairly good appetite. B. K. R., Parkersville, Pa.—Give your cow one dram fluid extract nux vomica, thirty grains of potassium iodide and three drams of Fowler's solution at a dose in a quart of water, as a drench or in feed or in drinking water, three times a day. Apply mustard and water to back, three times a week. She should be placed in a sling and assisted on foot twice daily.

Lice on Cattle.—I would like to have you tell me how to kill lice on cattle. I have applied several kinds of dips and lice powders, which seemed to have very little effect. T. S. F., Norristown, Pa.—As you perhaps know, cattle lice reproduce by means of eggs or nits which fasten to the hair. The blue lice are usually found on the neck and shoulders and the red lice on nearly every part of the body. Nearly all the coal-tar preparations if applied strong enough will kill cattle lice; so will a solution of tobacco. Beaumont's oil emulsion, which is a petroleum obtained from Texas wells, always gives good results. Kerosene oil applied properly and not allowed to remain on too long before washing it off will also kill lice. But remember, killing a few lice on your cattle does not drive them out of your stable and grooming tools.

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PENNSYLVANIA FARMER
261 S. Third Street, Philadelphia, Pa.

Mrs. Wagner's Revenge

By Hilda Richmond

‘‘Mamie, where did you put the last copy of ‘The Hustling Farmer’? I was reading an article on alfalfa this noon, and now I can't find it anywhere.’’

‘‘You will find it in its place on the table,’’ said Mrs. Wagner, rather impatiently. ‘‘How many times have I told you that the farm papers are all on the bottom of the stand next to the church weekly?’’

‘‘A million or more, maybe,’’ said the farmer cheerfully. ‘‘And how often, Mamie, have I asked you to let me have my paper in comfort when I've been reading an article? It is very tiresome to have to hunt up something you have laid down only a few hours before.’’

‘‘Isn't that like a man?’’ said Mrs. Wagner with a laugh. ‘‘You probably have been reading some of the absurd directions to women in the Household department, or you would appreciate a tidy home. It is very seldom I look at them, but when I do I always lose my temper. The advice to women on farms is written by town women, or men, maybe, for it shows a woeful lack of common sense. No woman on a farm has time to sit down and write out her experiences for any paper, and if she did she would have more sense than to put in such nonsense.’’

‘‘Yes, I know you always say that, Mamie, but, after all, I think there are some sensible things in the Household department. Often I see things that I wish you'd try.’’

‘‘Oh, no doubt,’’ said his wife. ‘‘Men are all alike the world over, and think a woman has nothing to do but take up with every foolish notion that comes along. The labor-saving plans are all foolishness, and the advice about resting and going out in the world impossible. I've explained that to you over and over again, Nathan, but somehow you never seem to understand.’’

This was a favorite topic of conversation in the immaculate Wagner home, and it always ended in the same way. Fifteen years before, Mr. Wagner had brought his pretty bride to his new home, and people said everywhere that he had made a wise choice. Mamie Driscoll was reported to be an excellent housekeeper, a good seamstress, a fine cook and a girl of sound sense, all of which Mr. Wagner would have agreed to, and still thought true after fifteen years of wedded life. Mrs. Wagner was a comely woman of thirty-seven, always neatly, if plainly, dressed, and her house was so spick and span that everyone held her up as a pattern house-keeper, that is, all but a few people whom Mrs. Wagner would have termed shiftless had she heard the comment on her ways. There were no children in the home, so everything could remain in good order except as Mr. Wagner disarranged things. Their modest little farm had redoubled its area, and they were prosperous in all their undertakings, yet with all their increased savings Mrs. Wagner was still the same thrifty careful housewife she had been in the first struggling days on the farm.

‘‘Just listen to this,’’ went on Mrs. Hopkins, picking up one of the offending farm papers. ‘‘Here is some excellent advice on the Women's Page. It tells housekeepers to get out in the open air more and go with their husbands when they have to go to town, as the change will do them good. No doubt it is pleasant to go to town, but who will do the work while the cook gads? And here is another: ‘Let your beds go unmade until after dinner. They will be all the better for the airing, and when you go up to dress for the afternoon you will be tempted to drop down and rest a few minutes!’ Such nonsense! My beds are made by eight o'clock every morning no matter what is going on. But this is the silliest of all: ‘Keep up with the times in reading so you will be a companion for your husband. Read good books and papers and attend good entertainments.’ I think if I tried to do all those things I would end in nervous prostration, or you would be getting a divorce. It passes all understanding with me how you can read such trash.’’

‘‘Mrs. Lamson reads a great deal and is very well informed on the lastest news,’’ observed Mr. Wagner, showing his knowledge of human nature—women human nature—by this bright remark. ‘‘She keeps posted on market prices, and often when her husband isn't there is able to transact business for him.’’

‘‘Nathan Wagner! Quoting that woman to me! I've never seen her house, and I don't want to, for it must be terrible, the way she gads about, but her children wear ready-made clothes!’’

‘‘Well, there isn't any sin in wearing ready-made clothes, Mamie. I think they are healthy, bright youngsters, very well behaved for these times, and they always appear well dressed. Molly Lamson is older than you are, but somehow there is a look about her—’’ He looked up to find that he was addressing space, for the slam of a door told him that his wife had departed. Contrary to his usual custom, he did not go after her to ‘‘make up’’ but sat placidly enjoying his paper until bedtime. When he went upstairs he found his wife asleep, or feigning sleep, so he silently went to bed and slept the sleep of the just after his hard day's work.

But Mrs. Wagner was not asleep. She was going over in her mind, womanlike, the benefits her husband had derived from such a prudent, thrifty wife as he possessed, and how little he appreciated them. She reviewed the facts in the case impartially, she would have said, and thought herself a very ill-used being. All the assistance she had given her husband in those early years, the care with which she had cooked his meals and kept his clothes in order, the snug bank account from the butter and eggs, the turning and saving that had resulted in the larger farms—all these she decided were utterly thrown away, in the light of recent events and the fact that Nathan was always urging her to ‘‘be like other women’’. Then all at once came the determination to gratify his desire and be like her neighbors with a vengeance. Most of the night she was lying there awake planning what she could do to show Nathan the utter fallacy of his ideas, and convince him that he had been slow in recognizing his great blessings. It was nearly morning when she fell into a troubled sleep, and she was really relieved when the alarm clock called her to her daily duties once more.

‘‘I'll show him what it means to have bouquets on the table and nothing else,’’ she said between her set teeth as she hurriedly dressed. ‘‘I'll venture to say he'll wish for the old days back again. I'll spend money for clothes like Molly Lamson's, and do my hair as she does, just to show him that I'm as young looking as she is. Maybe then he'll wish he hadn't been so reckless. The Lamson's haven't half as much property as we have, and he knows it. And I'll go with him till he'll be glad to have me stay at home. See if I don't!’’ Then suddenly in her scheme of revenge flashed the remembrance that wives were always urged to be smiling and pleasant at home, so she would have to revise her plans a little. She was determined to carry out the Household department instructions to the very letter, and while her smile hardly had the spirit of the directions at that moment, still it might do to deceive a man who was not suspecting any designs upon his peace and comfort.

Thanks to her nightly preparations for breakfast, there was nothing startling about the morning meal. Mr. Wagner made some observations about helping a neighbor thresh, saying he would be gone all day, and his wife answered politely. The married hired man would see after the chores, he explained, and she would have nothing to do except to see that her husband's orders were obeyed. He would be gone for both dinner and supper, returning at dusk. All this was very pleasing to Mrs. Wagner, as it gave her the chance to carry out some plans thought out the night before. Altogether, the breakfast was a very cheerful meal, and husband and wife parted in good humor.

‘‘Why, Mamie! You here? I tell you I'm glad,’’ was Mr. Wagner's greeting that evening as he found his wife waiting for him with the family driving horse and the rather shabby buggy. ‘‘I'm tired as a hound, and Smith isn't going my way home. I think I'll just let you drive home.’’

It must be confessed that Mr. Wagner was rather stupid after his hard and dusty work in the straw, and the ride home was rather a silent one. After a warm, refreshing bath he tumbled into bed and Mrs. Wagner shed a few indignant tears.

‘‘That article said husbands would instantly notice the slightest change,’’ she remarked to her image in the mirror, ‘‘and Nathan never saw that I was wearing my hair a new way.’’ Then justice compelled her to remember that in the dusk he could not very well see the change, and also that it was her desire to prove the directions were all wrong, so she felt better as she retired to rest.

‘‘Those posies look fine,’’ said Mr. Wagner at breakfast, ‘‘why, its golden rod! I always thought golden rod was a nuisance, but I declare, it looks quite pretty. Does it—is it useful in driving out flies?’’ He was hunting in his brain for some reason why it should be there, and then he suddenly remembered that his mother used to think blossoming tansy useful in ridding the premises of ants, so he thought he had struck the right thing. Mrs. Wagner did not answer but was ready with a question about going to town.

‘‘Yes, I had thought of going to town today. What is it you want? I'll take the eggs up and get whatever it is.’’

‘‘I'm going along,’’ said Mrs. Wagner coolly. ‘‘I want to see about a fall hat.’’

‘‘All right,’’ said the unsuspecting man. ‘‘I've been thinking about getting that mowing machine repaired this long time, and I want it out of the way before the second crop of clover is ready. What time will you be ready? I'd like to go this morning, but you never think you can get away at that time.’’

‘‘I can today,’’ was the unexpected answer. ‘‘I'll be ready about nine.’’

It was just eleven-thirty when Mrs. Wagner sauntered into the store where her husband was waiting for her and announced that her errands were not all finished. ‘‘The dressmaker wants me in half an hour—no, she said at one o'clock,’’ she remarked, ‘‘so we might as well wait till that time. It will save a trip up town.’’

‘‘All right, Mamie, but I'm wretchedly hungry. Let's go and get something to eat.’’ This was a very forlorn suggestion, for his wife was wont to make slighting remarks about city restaurants, but hunger forced him to try.

‘‘All right. Let's go to Jackson's. I saw some tempting looking things in there as I came past.’’ The Jackson restaurant was a first-class affair, but the prices were known to be high, and Mr. Wagner was plainly astonished. ‘‘I'm very hungry, too,’’ went on Mrs. Wagner. ‘‘Let's go before the crowd comes in.’’

Very soon they were seated at a dainty round table, and Mr. Wagner was ordering a very substantial dinner. Before the soup was eaten, Mrs. Wagner was really enjoying the good food, as it had been a long time since she had eaten away from home. Neither she nor her husband had many relatives, and she had so long discouraged the friendly advances of her neighbors that they had very few guests and made few visits. Somehow that hot, nourishing soup, made after an unfamiliar recipe, seemed to open a new outlook for the woman so long content with her narrow career, and she lost some of the bitterness which she was cherishing in her heart.

‘‘The pudding is very good,’’ was her only comment on the food as they were leisurely finishing the meal.

‘‘Yes, isn't it?’’ said her husband. ‘‘Molly Lamson had pudding like this the day I helped thresh there. She said she got the recipe out of a farm paper. I think I could eat it three or four days in the week.’’

Of course this little speech provoked Mrs. Wagner, but she had the good sense to hold her tongue. ‘‘I must go back to the store,’’ she said rising. ‘‘I will be ready about two-thirty to go home.’’

Mr. Wagner was very busy the next few days, for helpers were hard to find and he had to work early and late, but one afternoon he was driven to the barn by a fierce storm of early autumn. It was one of the severe electrical storms that usually follow a lingering summer, and every lull seemed to be succeeded by sharper lightning and more deafening claps of thunder. Mrs. Wagner was very busy in the house and did not notice the storm until it burst in fury, and then she was very much concerned for the safety of her husband.

‘‘I'm all right, Mamie,’’ he panted after a quick run to the house when the storm abated for a few minutes. ‘‘Been in the barn all this time. Joe Lamson and his family are out there stranded by the storm, and it looks as if we'll have to ask them to supper,’’ he added apologetically. ‘‘Why, were you planning to go somewhere?’’

‘‘No, why?’’

‘‘You're—you're all dressed up,’’ faltered Mr. Wagner, noticing for the first time the neat shirt waist his wife wore instead of her customary wrapper, and the trim cloth skirt that revealed dainty shoes modestly peeping from beneath the hem.

‘‘Just bring the Lamsons in,’’ said Mrs. Wagner. ‘‘I can find enough for them all to eat.’’

Mr. Wagner departed with alacrity, for he was a hospitable soul and it hurt him very much to stand aloof from all the good times of the neighborhood. Very soon the little family was sheltered in the clean sitting-room, and Mrs. Lamson was delivering sundry warnings to the little ones about touching anything about the premises, for

she knew Mrs. Wagner's reputation for disliking company with children. It worried her very much to think they must accept her hospitality, but there was no other way out of it, as the storm was still raging.

‘‘Well, there's one good thing,’’ mused the mistress of the house as she flitted from kitchen to pantry, ‘‘and that is the article on emergency cooking. In my zeal to spend money the other day I bought all the things that woman advised, and I'm thankful tonight.’’

That night, when the storm finally subsided, the Lamsons took their departure with their sleepy little ones, and as they drove toward their own home, Mrs. Lamson remarked to her husband, ‘‘Wasn't Mrs. Wagner pleasant and nice tonight? I just dreaded going into her wonderfully clean house, and it was wonderfully clean, but she was as nice as could be. She says she is going to join the Missionary Society next week, and offered me a lot of things for the box we are packing. She says she will drive over tomorrow with a lot of clothes she cannot use any more. I never was more surprised in my life.’’

‘‘They certainly seem like delightful people,’’ said Mr. Lamson, ‘‘and I think the estimates of them we have always heard have been unfair and unkind. I am glad she is to take a part in the social life of the neighborhood.’’

At the Wagner home Mr. Wagner was looking at his wife as in a daze. She was picking up the dishes and stacking them in the pan for washing the next morning, a thing that had never been done in that house since she became the mistress of it. Like a wise man, he concluded to say nothing, but he had a healthy curiosity to see what was going on. From the new-fangled way of dressing her hair, as he termed it in his mind, down to her dainty shoes, his wife was a complete puzzle to him, and he only half took in what she was saying to him.

A week later his wife still further astonished him by mentioning a concert in town that she would like to attend, quite as if they were in the habit of going to concerts. ‘‘Of course, I'd like to go, Mamie,’’ he said with delight in his voice, ‘‘but old Bob is so lame, you know.’’

‘‘Yes, I know that,’’ said Mrs. Wagner carelessly, ‘‘but I think we might get an automobile and then we will not have to depend upon old Bob. He is getting too old to be of much use as a buggy horse anyway, and the hard roads hurt his feet.’’

‘‘My dear Mamie, I will buy anything you want that we can afford, if you will only tell me what this all means,’’ said Mr. Wagner. ‘‘I did make a vow to find out for myself, but curiosity gets the better of me.’’

‘‘I don't like to confess, Nathan, but I did it for revenge. No—don't interrupt. You were always telling me what it said in the Household departments of the farm papers until I thought I would try some of the new ideas and disgust you. I thought if you found me spending money for new clothes and going with you on your little trips, and saving myself whenever I could, that you would hate to see the money go, and be glad to get back to the old ways. But Nathan, do you know, I like the new way best?’’

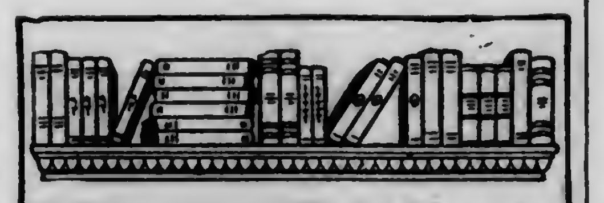
By this time her head was on his broad shoulder and the happy tears were falling. ‘‘Why, Mamie, don't cry,’’ he said soothingly, ‘‘I like the new way best, too. There isn't a handsomer woman in all the country than my wife, nor one that looks prettier since she has some nice new clothes. I am glad you gave away all those old garments, tho they were as good as new, some of them. I want my wife to dress well and go places with me, even if some of the work is neglected. That is what I have always said, you know.’’

‘‘Yes, I know,’’ sobbed Mrs. Wagner, ‘‘but I thought I knew better. Will you forgive me, Na—’’

‘‘There is nothing to forgive,’’ he said happily. ‘‘Just now we are too busy thinking about that automobile I have wanted for four years, to talk about anything else. Put on your bonnet and I'll telephone to Saxby to take us right out for a trial ride in his new machine. He's been at me for weeks and weeks and it won't take him but a few minutes to come out for us. Bless your heart! You'll never regret learning to enjoy things and getting out in the world more.’’

‘‘I'm sure of that,’’ said Mrs. Wagner, ‘‘and the first long trip we take will be to the city to thank that household editor for her suggestions—no, it can't be to the city, for I'm sure that woman must live on a farm, for she knows exactly how to manage. And I'm going to beg her pardon, if I ever do see her, for calling her a man. No man could give such good advice. I'm sure of that.’’

THE END



PIECES *to* SPEAK

We shall be glad to procure and publish poems in this department on request if possible. We believe that the old-time custom of learning and speaking pieces at school and public gatherings should be encouraged, and we desire to aid in such work by publishing suitable pieces.

THE MOTOR-DRIVEN FARM

Time was, when driving into town
  took nearly half a day,
We puttered with our hoss an' cart
  th' good old-fashioned way.
But now—well, now we touch th' spark
  and trust to gasoline,
Then—Ziz! away the auto skits across
  th' Village green.

What if your girl lives thirty mile,
 Along th' County Line?
You run that thirty with a smile,
 And think its purty fine.

Time was, when carting crates of stuff,
  say twenty mile from here,
Was looked upon with mournful eyes
  and thought about with fear.
But now—well, now a bunch of crops
  could move from state to state,
With not a whimper nor a grunt or
  hoss to hesitate.

What if th' station's far away,
 And roads of windin' sort?
This is a motor-drivin' day;
 Jump in—an' be a sport.

Time was, when tillin' fields an' sich
  made boys flee from th' farm;
They'd pass th' Country's dole of
  health an' risk th' City's Harm.
But now—good-bye ol' kickin' mule—
  farewell thar, Mister Hoss;
Th' tractors skoot along th' field with
  Gasoline as boss;

What if the plowin' stunt is hard;
 The soil catankerous?
With some big Motor as a ‘‘Pard’’,
 ‘‘Gas’’ does th' work for us.

—W. Livingston Larned.

A quart of canned peaches or tomatoes on the shelf is worth a bushel rotting on the ground.

See that the shelves in your preserving closet sag just a little this year.

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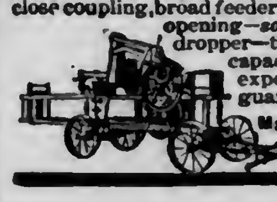

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Grade Guernsey Heifers 12 head for sale. 6 to 20 months old. Call or write. Jos. G. Kennel, Atglen, Pa.

Feed the Fighters! Win the War!
Harvest the Crops! Save the Yields!

On the battlefields of France and Flanders the United States boys and the Canadian boys are fighting side by side to win for the World the freedom that Prussianism would destroy.

While doing this they must be fed and every ounce of muscle that can be requisitioned must go into use to save this year's crop. A short harvest period requires the combined forces of the two countries in team work, such as the soldier boys in France and Flanders are demonstrating.

THE COMBINED FIGHTERS IN FRANCE AND FLANDERS AND THE COMBINED HARVESTERS IN AMERICA WILL BRING THE ALLIED VICTORY NEARER

A reciprocal arrangement for the use of farm workers has been perfected between the Department of the Interior of Canada and the Departments of Labor and Agriculture of the United States, under which it is proposed to permit the harvesters that are now engaged in the wheat fields of Oklahoma, Kansas, Iowa, North Dakota, South Dakota, Nebraska, Minnesota, and Wisconsin to move over into Canada, with the privilege of later returning to the United States, when the crops in the United States have been conserved, and help to save the enormous crops in Canada which by that time will be ready for harvesting.

Help Your Canadian Neighbors When Your Own Crop is Harvested
Canada wants 40,000 Harvest Hands to take care of its
13 Million Acre Wheat Field

One cent a mile railway fare from the International Boundary line to destination and the same rate returning to the International Boundary. High wages, good board, comfortable lodgings.

An Identification Card issued at the boundary by a Canadian Immigration Officer will guarantee no trouble in returning to United States.

AS SOON AS YOUR OWN HARVEST IS SAVED, move northward and assist your Canadian neighbor in harvesting his; in this way do your bit in helping "Win the War."

For particulars as to routes, identification cards and place where employment may be had, apply to Superintendent of Immigration, Ottawa, Canada, or to

F. A. HARRISON, 210 N. 3rd Street, Harrisburg, Pa.
Canadian Government Agent

Our Friend, the Freezer

Cool Dishes Drive Away Terrors of Hot Weather

Hot weather activities lose many of their terrors when one has a store of coolness in the ice-house to draw upon at will. During the hot sultry weather the wise housekeeper will postpone all the vigorous occupations that can possibly be put off, doing the necessary heavy work in the early morning or after sundown. She can do much for the comfort of her family by carefully planning her meals, serving many things cold, including meats, breads, biscuits, desserts and everything in the form of drinks. It is an urgent invitation to discomfort or very real suffering to allow a family to start a hot day with a breakfast of warm breads, and other foods washed down with cups of hot coffee or cereal drinks, to be followed later by a midday dinner of rich hot foods and more hot drinks. Everyone rises from such meals with dripping pores, more or less enervated and unfit to cope with active labor and the heat.

The family seldom objects to such meals. They may, in fact, think they must have them, so strong is the grip of habit. But if on a sultry morning they have placed before them attractive glasses of well-made coffee and cream, sweetened to taste and ice cold, they cannot fail to admit that their coolness is refreshing. And later they will see that well-planned hot weather meals, rich in fruits, scant in fat meats and other rich heavy foods, with plenty of sandwiches, and good cold white and brown bread or biscuits, firm butter and crisp salads and cool drinks, help them to work with greater ease and comfort.

The modern freezer is a real boon to the housekeeper at this season if used wisely. In it can be placed some made drink like cocoa, coffee, tea, lemon or other fruit-ade, fruit punches or eggnogs, with or without salt in the cracked ice that surrounds the container, and you quickly have a cold drink, and a means of keeping it cold. One can not be two wary about putting ice directly in drinks to cool them. Only the pure artificial ice is safe for such use, that coming from local ponds or rivers being likely to contain unhealthful germs.

The crankless or vacuum freezers are small and compact, and easily carried in wagon or automobile on picnic or camping trips, and they freeze very rapidly. But a good old style freezer will do anything we need to have done along this line, provided it is big enough to hold enough for two or three meals or servings. It is well to have a smaller freezer for the richer desserts or heavy creams.

For most frequent use we consider the frozen custard creams, made of eggs, milk and cornstarch, with a small quantity of cream, the best, as they are not such a tax on either the digestion or the purse as are the heavier creams. We vary them by using sauces made of the fruits of the season, with sometimes canned pineapple, chocolate and nuts.

One should experiment until one knows just the quantity that will fill the freezer, increasing or decreasing the amounts in the recipes in proportion. Our family is not large, so a three-quart freezer is sufficient, when we are alone, for several servings all around.

Ice Cream

Our Favorite Recipe.—For 3 quarts of frozen cream is 2 quarts new milk, 2 eggs well beaten, 2 scant cups sugar, 3 rounded tablespoons cornstarch, 1 cup cream whipped until stiff, and flavor to taste. I use only half the milk in preparing the custard, then use the rest to thin and cool the mixture. This hastens both the boiling and the cooling processes. We like the velvety quality of a cooked or custard cream, thinking it more agreeable than the uncooked creams that require much more pure cream. When an extra velvet-like texture is desired, I use bread flour instead of cornstarch, using just a bit more, as it has not so much thickening power. I blend the flour very thoroly with the dry sugar, thin it with milk, then add the beaten eggs.

The container of my freezer will just set into the top of my aluminum teakettle, which has an extra large hole to accommodate a double boiler. In ten minutes I can have a quart of milk boiling. I stir in the eggs, sugar and cornstarch mixture, well thinned with milk, cook five minutes longer and transfer the can to a pail of cold water. The cold water is renewed in 10 or 15 minutes, and the other quart of milk is added. In a few minutes longer the mixture is cool enough to begin to freeze.

Secret of Quick Freezing.—It lies in a generous use of salt, well mixed into ice crushed fine in a piece of burlap. I use cattle salt, one part to three or four of ice, with a little water added at the start to form a brine and hasten the freezing. After 15 minutes turning of the crank, with a few stops, the dash can be removed, the cream scraped down and packed for ripening. At this stage we add the fruits or fruit juices, if they are to be incorporated into the cream. Pack well in salt, carefully corking the hole in the top after the dash is removed. My neighbor uses a solid top for the packing, and a set of clamps to hold the freezer firmly on a plank while the freezer crank is being turned. When one has engine power, the freezer can be harnessed to be run with the power, but with the pail lightly clamped in a vise it is easily turned by hand for such small quantities.

We find it no more trouble to make ice cream or fruit ices than any other dessert, especially when two meals are planned for at a time. Do not make the mistake of serving a frozen dessert in addition to a full menu, but rather as a substitute for some of the usual desserts as pie or pudding. It is a fit and sufficient supplement to any meal, even if cake, cookies or wafers are not served with it.

For the hot days of harvest a generous dish of frozen dessert with a glass of cold water in mid-afternoon will be greatly apreciated by the field workers. (Editor's Note.—A word of warning: We must serve these ice-cold drinks and foods with some caution to men hot with field work in the sun. We have found that too much ice cream and too much ice-cold water or drinks is not good for our over heated, tired men folks.) Ice cream, not too rich, has been found by dietitians to be in general healthful and digestible. The young folks of the family will enjoy the planning and making of frozen delicacies as well as they will enjoy their consumption later. And a big load is thus taken off the mother, to whom the thought of a morning over the baking board and a hot range is like a nightmare, on these sultry days of late summer. Teach the young folks, the girls, of course, and the boys, too, if possible, how to do these things while youthful energy and interest are at their hight, and you will be doing yourself and them a real kindness.

Some Good Frozen Foods

Here are some simple recipes, tested, wholesome and easily prepared and suited to the season.

Cocoa Cream.—This is always well liked. Use the plain cream recipe given above, except that 3 or 4 rounded tablespoons of pure best grade cocoa should be substituted for one of the eggs, and 1 tablespoon of best vanilla extract is added; or you may prefer the vanilla powders for ice cream, as we do.

Maple Cream.—This is a year-round, never-failing favorite. Use the same plain cream recipe except that maple sugar or maple syrup is used instead of granulated sugar. An extra cup of cream makes a dessert almost as rich and delicious as real maple mousse.

Pear Cream or Frozen Pear.—Delicious and easy to prepare. Open a can of pears, or cook one quart of quartered pears in hot syrup, and mix in 1 cup of heavy cream whipped until stiff. Pack at once without turning the crank or using the dash. Ripen for two or three hours, slip the dessert out of the can onto a platter and slice off the roll, serving with a bit of whipped cream sweetened to taste. A dash of lemon juice in the pear cream or in the whipped cream adds a varied zest.

BEST THING IN MY HOUSE.

Grape Cream.—Add 1 cup rich grape juice to the plain cream recipe when the dash is removed.

Grape Sherbet.—Make a syrup of 4 cups water and 2 cups sugar. Before removing from the fire add 1 tablespoon gelatin dissolved in 2 tablespoons water. Then add 1 cup grape juice, 4 cups ice water, 1 can grated pineapple, cool and freeze. It makes a very cool, light dessert.

Berry Cream.—Berries of any kind in season may be crushed with a cup of sugar to 2 cups fruit. Let stand a while, strain or press out all the juice thru a cloth bag, and add to the plain cream recipe.

Newport Date Cream. — This is a simple dessert that will serve quite a number of people daintily, and very easily. It is made of 1 quart of milk, 1 pint of cream (whipped), 2 cups sugar, the juice of 1 lemon, the juice of 1 large orange, and 1 lb. dates washed and chopped.

Maple Mousse.—This is a heavier dessert, good enough for the most particular occasion. Put 1 cup maple syrup to heat in a basin set on an asbestos mat to prevent scorching. Add 2 well beaten eggs and cook until creamy, then strain; chill, and add 1 pint of cream, measured before whipping. Freeze with or without agitating the dash, tho we prefer it stirred like any ice cream. This recipe serves eight people.

Peach Ice Cream.—A good uncooked dessert is made thus: Blend 1 quart sweet cream, 1 pint new milk, 3 cups sugar, and 1 quart of canned peaches, or an equal quantity of fresh peaches sweetened and mashed or chopped fine. Freeze hard.

Sauces for Ice Creams

A very pleasing variety may be had by serving plain creams with sauces, or dressings made thus:

Chocolate or Cocoa Sauce. — One square of chocolate or ½ cup pure cocoa boiled with 1 cup of water and 1 cup granulated sugar. Remove from the fire when it gets thick or syrup-like, and add 1 teaspoon vanilla extract or powder.

Maple Walnut Sauce.—Boil 1 cup maple syrup with 1 tablespoon cream, and ½ cup of chopped walnuts. Cool and pour a bit over plain vanilla cream as served.

Fruit Syrups for Ice Creams.—Fruit syrups of any kind may be made by boiling the strained juice of the fruit with 1 cup sugar to 1 cup of juice, boiling to the desired thickness. Cool before serving.

Keep the Freezer Clean.—Be careful that your freezer is carefully scalded after each using. I always wash the dash immediately, never letting it stand and dry, because it washes so much more easily while moist. The joints of the dash may be a source of ptomaine poisoning unless carefully washed, then scalded in boiling water. —Mrs. M. G. Feint, Tompkins County, N. Y.

BEST THING IN MY HOUSE

I prize my kitchen cabinet above rubies and above nearly everything else in my house. Throwing open the doors and drawers is almost as easy as waving a magician's wand, and then there are at my command all things needful for the preparation of a dish or a meal. I used to make dozens of trips to collect flour, sugar, salt, spices, flavoring extracts and all the other dry ingredients, only to find at the crucial moment that I had forgotten some important thing. Now, not only these, but tea, coffee, cereals, bread, crackers, kitchen cutlery, mixing dishes and cooking utensils repose in their proper receptacles and places within the cabinet.

Its glass doors and jars and its bright zinc compartments make it a real joy. It may be always clean, for there are no dark corners. It may be tightly closed to protect the contents from dust and flies. I have it near the stove. How I bless it when I remember the dark, old-fashioned pantry where I used to do my mixing. Some one would have to do some fine calculating to estimate the hours and the steps and the fatigue that the kitchen cabinet has saved for women.—Julia C. Gray, Center Co., Pa.

PRICES OF GLASS JARS

The Federal Bureau of Markets calls attention to the fact that reports indicate that retail dealers in many localities are advancing prices on glass jars for canning and preserving. Representatives of the glass jar manufacfacturers stated, in a conference held at the Department on July 17, that there is no shortage in glass jars. One declared: "We have not received enough orders to take care of our daily capacity, and have even offered to sell jobbers jars on consignment, to

be paid for as sold. We have sold to the jobbers their usual supply, what they usually purchase in a year. They have sold to the merchants the usual supply and they are not ordering any more until they begin to sell and reduce the stock on hand. By the middle of August we should begin to ship very freely for the fall trade."

It would appear that any advance in prices of jars at this time is not justified by conditions in the wholesale trade. Make your protest to the dealer who tries to increase the price.

THE FORCE OF HABIT

Its Application and Effect in Training Children

The sum and substance of all character, good, bad or indifferent, may be summed up in these two short words, habit and will. Good habits and the will to do right, combined with average intelligence, we have every reason to believe, will result in harmony of life and a fair degree of success. Good habits are strong or weak according to the intelligence and will behind them. Habits of thought are as truly and often as unconsciously established as are habits of action. But for habit we should spend a whole day doing one or two things with great fatigue of mind and body, such as in the continual effort to balance the body in an erect position by sheer force of will. The absence of fixed habits is misery, and is the source of indecision of action and of character, quite as often as is deficient will power.

Attention may be deliberately manufactured as a habit by the inattentive. The habit of inquiry is easily acquired in early life. The habit of industry is an invaluable one, as well as that of perfect execution, but the latter must be taught early in life. Habit is economical and gives speed, accuracy and ease.

The easiest and best time to form habit is before fifteen years of age. The earlier, the more lasting. The house itself, orderly, clean, plain in its appointments, will produce orderliness, cleanliness, simplicity, self-respect and carefulness in the child. This atmosphere, in which the child inspires his unconscious ideas of living, emanates from his parents. That he should take direction and inspiration from all the casual life around him is a thought which makes most of us hold our breath. The parents who systematically train their children in the formation of good habits, save themselves incalculable worry later on. In the education of most of us there probably has been as much neglect in eradicating our undesirable tendencies as there has been failure in encouraging those that would have made for individual fitness. Many incipient tendencies, if fostered, might lead to genius—certainly to a higher degree of efficiency.

The lack of fixed habits for good, the lack of proper direction in the formation of the habits that govern the more important phases of life, are at the bottom of the great increase of crime, and the cause of a great deal of the inefficiency of the present day. How is the child, when grown a man or a woman, to resist evil tendencies and temptation if he has never been taught self control or self denial? There seems to be a swing of the pendulum in the later day management of children to the extreme opposite of the rigid discipline of the olden time. A hapy medium may be nearer right than is either extreme, but of the two extreme measures, which turns out the better men and women?

The child who is allowed to exercise the dictates of his immature will and judgment will go down and not up. The temptation to evil is often greater than the incentive to good. Downward is the path of least resistance. With no habits of self control and self denial to guide him, the average person will drift, be led, or go knowingly accordingly to environment, along the broad path that leads to destruction. Until the child is old enough to judge for himself he should be trained in habits of thought, of action and of body that will prove a safeguard later in life. Wherever an evil tendency shows, it should be stamped out, and a good one established in its place.

One of the most important habits to learn is concentrated effort and faithfulness to the task in hand. Satan always has and always will find work for idle hands. The empty mind will soon be filled with undesirable thoughts unless filled first with desirable ones. Fill the mind with good and useful thoughts, high ambitions, and busy the hands with systematic business of a useful, pure and true kind. Systematically form habits of life, and when maturity comes the man or woman will have a chart of life that will never fail.

FEATHER TURBANS WILL BE POPULAR THIS FALL.—Photo by Underwood & Underwood.

Many of us mourn some lack in our early training. I have been handicapped all my life by a lack of habits of orderliness and system and "stick-to-it-iveness," and strive as I may, I cannot develop automatic habits in this direction. I am obliged to do these things by sheer force of will, with great fatigue of mind and body, while if I had been trained to this in the early formative period of my life it would now be "second nature". It would be easier to do than not to do, requiring effort of neither mind nor body.—Mrs. J. W. Mathie.

MAKE YOUR OWN FAT COMPOUND

Lard is 28 cents a pound. Many folks object to paying that much but realize that at the present price of hogs and with the probable future demand it is unlikely that the price will be reduced soon. It becomes important, then, to find a cheaper satisfactory substitute. Dr. Louise Stanley of the Missouri College of Agriculture suggests that housewives consider suet as a source of cheap fat. Suet has not been extensively used as lard on account of its harder consistency. It can be obtained at about 10 cents a pound. From this can be obtained fourteen ounces of pure fat at a cost of 12 cents a pound. In order to bring this to the consistency of lard it is only necessary to add oil in the proportion of one part of oil to two parts of suet. This gives a compound fat which is very satisfactory for general household use. Cottonseed oil or corn oil can now be obtained at about 21 cents a pound. On the basis of the above proportions, a satisfactory lard substitute can be had at a cost of 15 cents a pound.

USE YOUR OLD JARS AND BOTTLES

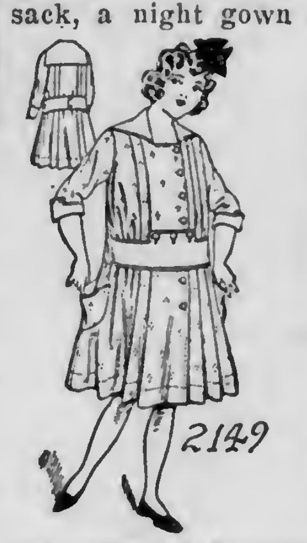
Jars and large-necked bottles can be capped with paper and paraffin, or, in the case of jellies and stiff marmalades, with paraffin alone. Small-necked bottles for use in putting up fruit juices can be sealed in the following manner: Make a cotton stopper, press it into the neck of the bottle and leave during the sterilization or boiling period. To sterilize, set the bottle in boiling-hot water up to the neck and let it remain for 40 minutes at a temperature of 165 degrees F. Then remove the bottle, press the cork, which has been baked in the oven for one hour, in the top over the cotton, immediately, and dip the top into melted wax or paraffin. Don't miss any step.

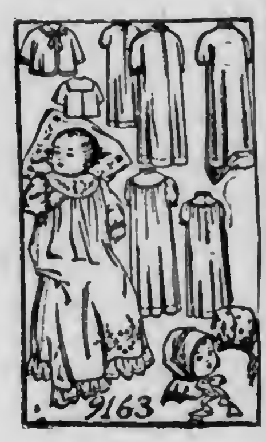
PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginunless you do so. Also give bust measure when ordering waist patterns, waist measure ning of each description. We will not be responsible for correct filling of your orders for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

2149.—An Attractive Dress for The Growing Girl.—May have long sleeves with deep cuffs, or short sleeves with shaped cuffs. Popular, one-piece style, with pouch pockets and a smart sailor collar. Pattern is good for gingham, drill, linen, poplin, galatea, voile, chambray, percale, batiste, serge and gabardine. It is cut in 5 sizes: 4, 6, 8, 10 and 12 years and requires for an 8-year size, 3¾ yards of 36-inch material. Price, 10 cents.

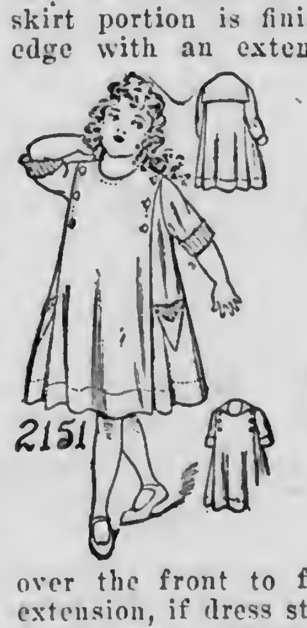
9163.—New Things for the Baby.—Infant's set, consisting of a cap, a sack, a night gown and a dress. For the dress of flouncing, it will require size, 3¾ yards of 36-inch material. 1¾ yards of 36-inch material with 1¼ yards of plain material for yoke and sleeves. Of nainsook or lawn 36 inches wide it will require 2¼ yards. The gown will require 2½ yards of 24- or 27-inch material. The cap, ½ yard of 18-inch material. The sack requires ⅞ yard of 27-inch material. Price, 10 cents.

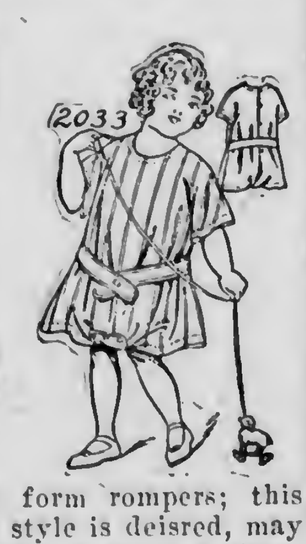




2151.—Girls' Dress.—Pattern is cut in 4 sizes: 2, 4, 6 and 8 years. It requires 3¼ yards of 24-inch material for a 4-year size. Price, 10 cents.

2033.—Play Dress, Lower Edge Arranged for Romper Style.—The fulness is held at the waist by a belt, which may be omitted if not desired. The skirt portion is finished at the lower edge with an extension that buttons over the front to form rompers; this extension, if dress style is deisred, may be cut away. Pattern is cut in 4 sizes: 1, 2, 3 and 4 years. Size 4 will require 2⅜ yards of 36-inch material. Price, 10 cents.





Good Bread

For The Children!

Children need a great deal of nourishing and substantial food, but their little stomachs must have it in a simple, easily digested form.

Bread is the answer —good bread, made of nutritious

King Midas FLOUR

"The Highest Priced Flour in America and Worth all it Costs."

All the goodness that can be put into flour is in King Midas. And it costs less than half-a-cent a pound more than "just-as-good" sorts. It makes the cheapest food on your table as well as the best.

Ask Your Dealer For King Midas, or write us direct if he doesn't have it.

Shane Bros & Wilson Co
Phila, Pa Minneapolis, Minn

"I'm On the Back of Every Sack"

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Aug. 20, 1917.

White potatoes have been running in heavy supply and with only a moderate demand the market is weaker. More than one hundred carloads were offered on the tracks this morning in addition to the supply of New Jersey potatoes hauled in by wagon. Practically all of the carlot stock was from Eastern Shore of Virginia, Delaware and Maryland and the quality and condition of these receipts was generally good. limited quantities showing effects of being heated. Irish Cobblers in cloth topped barrels are selling at $2.50 to $3 per barrel for first grades and at $1.25 to $2 per barrel for poorly graded and second grade stock. Jersey Cobblers sold today at 75 to 80 cents per ⅝-bushel baskets for first grades and at 40 to 60 cents for second size.

Sweet potatoes are in more liberal receipt but not yet in carlot shipments. North Carolina and Eastern Shore of Virginia stock is in good condition and selling with good demand. Carolina sweets of first grade and quality are selling principally at $3.50 to $4 per barrel and second grades at the range of from $1.50 to $2.50 per barrel. Eastern Shore stock sold quickly at $4.75 to $5 per barrel for firsts and at $2 to $2.25 per barrel for second grades.

Vegetables

Jersey tomatoes are in lighter receipt and the market is made fairly steady at slightly increased prices. Early varieties are selling at the lower quotations and second earlies are receiving the preference at top figures when fancy. The range of prices on various varieties today was 50 to 75 cents per ⅝-bushel basket for first grades and 30 to 40 cents for culls. The supply of egg plant is much heavier and the price correspondingly lower. Jersey eggplant in ⅝-bushel baskets sells at 15 to 25 cents per basket. Peppers have been running very plentiful and the market is draggy at 20 to 25 cents per Jersey basket.

Sugar corn is in heavy supply from nearby points in Pennsylvania and New Jersey, and the market is draggy and lower in price. Jersey baskets are selling at 30 to 60 cents per basket according to quality and Pennsylvania stock packed in bags of 75 to 100 ears sells at the rate of $1 to $1.25 per hundred. Lima beans have not overstocked the market and have continued at a fair price. Bushel hampers of lima beans are selling at $1@1.25 and New Jersey baskets are selling at 75 to 90 cents basket. Green and wax beans of a wide variety of quality are being offered and quotations vary widely. Green beans sell at from 65 cents to $1.25 per basket and wax beans at 50 cents to $1 per basket. The supply of beans is running light and the market is firm on good stock. Peas are arriving from New York State and the limited shipments are meeting with very little demand at $1.50 to $1.75 per bushel basket.

The cabbage market is very dull and draggy with prices on the decline. Nearby stock in barrels is selling at 75 cents to $1 per barrel and in Jersey baskets at 12 to 15 cents per basket, with a limited quantity selling at 20 cents per basket. Onions are in light receipt on the market and with the demand moderate prices are being held steady. Jersey onions are showing good quality and condition and Yellow Danvers in ⅝-bushel baskets are selling at 90 cents to $1 per basket. In bushel hampers the Yellow varieties are selling at $1.40 to $1.50 and the white varieties at $1.25 to $1.35 per bushel. Pickling onions are meeting with good demand at $1.75 to $2 per bushel. Eastern Shore shipments of yellow varieties are showing poor quality and sales were made at 75 cents to $1 per bushel. Cucumbers are very plentiful on the market and selling as low as 15 cents per ⅝-bushel basket. Altho small quantities of good stock sell as high as 60 cents per basket. Small pickling cucumbers are selling at 50 to 75 cents per basket. Jersey peppers are more plentiful and the market easier with prices ranging at 15 to 25 cents per ⅝-bushel basket. Squash are draggy at the low price of 15 to 25 cents per basket.

Lettuce is showing better quality and the demand is greatly increased. Bushel boxes and hampers are selling at $1.50 to $2 and some extra quality is selling as high as $2.25 per bushel. Roumain is bringing a price equal to the head lettuce and selling with good demand. The market is firm on bunch beets with the supply running more limited. Sales on bunch beets are at $2.50 to $3.50 per hundred bunches. Bunch carrots are in fair request and selling at $1.50 to $2.50 per bushel.

Fruits

Fancy peaches are in active demand at good prices but the market is heavily stocked on small and poor, near-by fruit which is selling at low prices. Carmans packed in 16-quart and in ⅝-bushel baskets are selling at 50 to 75 cents for the choice stock and at 20 to 35 cents per basket for poorer grades. Delaware peaches arriving here show a wide range of quality and condition. Hileys packed in six carrier crates sold today at $2.50 to $2.75 for the best grades and at $1.75 to $2 for poorer grades. Elbertas and Champions which were only ordinary in quality sold at $2.40 per crate. Elbertas in half-bushel hampers sold at 50 cents but the quality and condition was poor.

Canteloupes are in more plentiful supply and under a poor demand the market is weaker. New Jersey canteloupes are running fair to good in quality and ⅝-bushel baskets are selling at 75 cents to $1 per basket for prime stock and at 40 to 50 cents for culls. Delaware and Maryland shipments are arriving in slack package and some green and the condition in general is very poor. Standard 45's, green meats, sold at 50 cents to $1 and jumbos at 75 cents to $1.10 per crate. California Turlocks are selling at $2.25 to $2.50 per standard crate for first quality stock and at $1.50 to $1.75 per crate for poorer stock. Flat crates of Turlocks are selling at $1 to $1.10 per crate of from 12 to 15 canteloupes.

Good watermelons are in strong demand and the supply does not meet the demand. The condition of the market is made weak by the draggy lot of poor stock being offered for sale. Tom Watson melons averaging 18 to 20 pounds apiece sold at $140 to $200 per car, according to the quality. The 21 to 25 pound average sold at $200 to $250 per car and the 26 to 30 pound average at $250 to $300 per car.

Apples of poor and ordinary quality are in abundant supply on the market and first class hand picked apples continue in strong demand. Fancy grades, packed in bushel hampers, are selling at $1 to $1.25 per hamper; medium grades range from 50 to 85 cents per bushel. Jersey baskets of the better grades sell at 60 to 90 cents and second grades and culls sell from 15 to 50 cents per ⅝-bushel basket.

The supply of berries is very limited and the market firm on all good stock. Blackberries are selling at 12 to 14 cents per quart; huckleberries at 12 to 15 cents; red raspberries at 8 to 12 cents per pint. Grapes from North Carolina and Delaware packed in 8-carrier crates are in good demand at from 75 cents to $1.25 per crate, according to quality. Plums from near-by sections, packed in 16-quart baskets, are selling at 75 cents to $1 per basket.

Poultry

Light receipts of live poultry are helping to steady the market and maintain a good price on shipments. Best stock of live fowl are selling at 23 to 25 cents per pound and roosters at 16 to 17 cents per pound. Fancy yellow skinned plump spring chickens weighing 1½ to 2 pounds apiece are selling at 26 to 30 cents per pound and lighter sizes at 24 to 25 cents. White Leghorns are meeting with good request and selling at 22 to 25 cents. Pekin ducks at 19 cents and Indian runner ducks at 17 to 18 cents per pound are meeting with a good demand. A few spring ducks are being offered and selling at 20 to 21 cents per pound.

Fancy stock of dry-picked fowl, weighing 4½ pounds apiece and over, sell at 25½ to 26 cents per pound; weighing 3½ to 4 pounds at 24 to 25 cents, and weighing 3 pounds at 21 to 23 cents. Old roosters, dry-picked, sold at 19 cents per pound. Jersey broiling chickens weighing 1½ to 2 pounds apiece are selling at 34 to 36 cents per pound and other near-by broilers at 25 to 28 cents per pound. Spring ducks are in good demand and selling at 21 to 22 cents per pound.

Eggs

Fine fresh laid eggs are scarce and the market is firm with the demand quite active. Nearby firsts are selling at 39 cents per dozen; near-by current receipts, 38 cents; near-by seconds at 35 to 36 cents. Southern shipments of fresh stock sells at 36 to 37 cents per dozen.

—Selmarad.

YORK PRODUCE MARKET

York, Pa., Aug. 20, 1917.

There was little change in the markets from that of the preceding week. If anything, trading seemed slower. Butter is the only thing that is cleaned up; it being very scarce. Eggs are slow sale. Corn dropped to 12@18c per dozen and in looking over the market we noticed quite a few of the truckers putting the sacks under the stands. Upon inquiry it developed that at the price of old corn they intend to feed the sweet if the price rules below 20 cents per dozen. Who can censure them? Everything of a perishable nature is extremely dull on account of the war gardens.

Eggs.—34@36c per dozen.

Butter.—Country, 38@42c lb; separator, 40@45c lb. Milk, 8c qt.

Poultry.—Hens, 19@21c lb; springers, 22@24c lb; dressed, 80c@$1.50 each.

Vegetables.—Potatoes, 12@15c ½-pk.; $1 bu. Cabbage, 2@5c head. Lettuce, 3@5c head. Beets, 3c bch. Radishes, 5c bch. Onions, 5c bch; 20c ½-pk. Lima beans, new, 15@20c qt. Soup beans, 35c qt. Celery, 5@8c stalk. Tomatoes, 5@10c box; 10@20c ½-pk. Rhubarb, 5c bch. Turnips, 10@15c ½-pk. Corn, 12@25c doz. Eggplants, 3@10c each.

Fruits.—Apples, 5@20c ½-pk. Blackberries, 8@10c box. Plums, 3@10c box. Peaches, 5@15c box; 10@25c ½-pk. Cantaloupes, 3@8c each. Watermelons, 25@60c each.

Retail Grain Market.—Wheat, $2.25; corn, $2; oats, $1.10; rye, $1.60; bran, $2.35 cwt; middlings, $3.25 cwt.

Wholesale Grain Market.—Wheat, $2.08; corn, $1.60; oats, 75c; rye, $1.40; bran, $41 ton; middlings, $60 ton.

LANCASTER PRODUCE

Lancaster, Pa., Aug. 20, 1917.

An oversupply of potatoes this morning drove prices down to 15 cents a half-peck, the cheapest this season. There was a brisk demand for tomatoes, but the supply was large and prices hovered around 50 cents per basket. There was also a large supply of peaches. Butter was so scarce that the supply was exhausted early. Eggs were held for 37 cents per dozen. Corn was abundant. Crab apples made their first appearance on the market; a bumper yield is predicted.

Butter and Eggs.—Butter, creamery, 50c lb.; do., country, 48@50c. Eggs, fresh, 36@38c.

Vegetables and Fruits.—Corn, 10@20c dozen; new beans, 8@10c ½-pk.; lima beans, 10c pt; squash, 4@5c each; celery, 5@10c each; beets, 5c bunch; lettuce, 5@12c head; cauliflower, 15@20c head; eggplant, 5@10c; pickles, 40@60c hundred; sweet potatoes, 30c ½-pk.; potatoes, $1.10 bu; do., 12@15c ½-pk; new turnips, 5@10c ½-pk; spinach, 5c ½-pk; tomatoes, 15c ½-pk; do., 50c basket; watermelons, 25@50c each; peaches, 20@25c ½-pk; pears, 15c ½-pk; blackberries, 10c qt; cantaloupes, 2@5c each; apples, 10@20c ½-pk.

County Butchering.—Whole bacon, 30c; ham, 23c; dried beef, 12c ¼-lb; pudding, 13c; fresh sausage, 24c lb; smoked sausage, 28c lb.

Poultry. — Old chickens, dressed, $1@1.25; young chickens, dressed, 75c@$1; live chickens, $1.50@2 per pair; live chickens, old, 18c per lb.

Grain Market.—Milling wheat, $2.05 bu; damp wheat, $1.75; ear corn, $1.75; rye, $1.80; timothy hay, $18@19 ton; mixed hay, $16@18; wheat straw, $11@12.

LANCASTER LIVE STOCK

Lancaster, Pa., Aug. 20, 1917.

(Reported by McClain Commission Co.)

The receipts of cattle for today's market were 94 cars, as compared with 103 cars last Monday, and 217 cars the corresponding Monday in 1916. Today's supply came from following points: Virginia, 55 cars; Chicago, 27 cars; Pennsylvania, 4 cars; New York State, 2 cars; Buffalo, 2 cars; Indianapolis, 2 cars. It will be seen that ⅞ of receipts came from Virginia and Chicago. It is doubtful if this condition has existed on any previous Monday when more than 90 cars were received. St. Paul, usually one of the heavy supply points for Lancaster, in stockers and feeders at this time of year, was not represented by a single car.

The supply was made up in the main of steers, heifers, oxen and cows for slaughtering purposes. There was a good attendance of buyers for this class and the early trading for desirable kinds was on a basis practically steady with last Monday for similar kinds, but the report of receipts of 29,000 cattle at Chicago today had a depressing effect. The market immediately began to "sag" and finally salesmen had to take off from 25 to 35 cents per cwt. to get a clearance.

The best cattle on sale was a load of "imitation" Polled Angus from W. Va. They had good quality and good flesh, but were not burdened with very much fat. They weighed 1,153 lbs., and sold at 12 cents. The next best cattle were a car of W. Va., steers that were not very strong on quality but had quite some fat. They weighed 1,160 and sold at $11.90. Several cars of a pretty handy kind of Virginia steers weighing 1,100 lbs., sold at $11.40 to $11.60. A good many sales of bunches of rather ordinary killers, weighing 1,000 to 1,050, were made at 11 cents per lb. Several bunches of very useful butcher heifers, weighing 800 lbs. sold at 10 cents. A fair kind of butcher heifers, in car lots weighing 800 lbs. sold at $8.90 to $9.50. A plain kind of heifers for slaughtering purposes weighing 600 to 700 lbs., sold all the way from 7 to 8 cents.

Good Virginia fat oxen 1,200 to 1,400 lbs. sold at $9.25 to 9.50. A fair kind of the same weights sold at 8½ to 9 cents; the "shelly" kind at 7¾ to 8¾ cents. Good fat cows weighing 1,100 lbs. sold as high as 9 cents per lb. Some cows weighing 1,000 lbs. sold at $8.75. A pretty good kind of butcher cows weighing 950 to 1,000 lbs. sold at $8 to $8.50. A plain kind of cows for slaughtering purposes, sold from $6.50 to $7.50.

The stocker and feeder department did not have a heavy load to carry. There were quite a few buyers but there was not enough stuff to go around, and prices looked a shade stronger, however, buyers did not seem to be "feverish" in their anxiety to make purchases. One load of pretty good feeders weighing 870 lbs. sold at $8.75. Another load of a good kind weighed 842 and sold at $8.35. Still another load of dehorns that looked fair weighed 900 and sold at $8.50. One car of rather nice stockers weighing 700 lbs. sold at $8.10, and another car of about the same weights at 8 cents. One bunch of 15 head weighing 700 lbs. sold at $8.10. A plain class of stockers weighing 550 to 750 lbs., sold at $6.90 to $7.60. Good Holstein heifers from N. Y. State weighing 800 lbs. sold at $9 to $9.25; a fair kind at $8.25 to $8.75, and a class that were on the nondescript order at $7.50 to $8. Good stock bulls were very scarce and sold higher. Some that were fancy sold at $9 to $9.50. A pretty good kind at $8.25 to $8.50; a common to fair, $7.50 to 8.

The real determining factor in the supply of cattle for beef purposes in a countrywide way and as well the supply of feeders for Eastern Pennsylvania farms, is contingent upon the price at which the new corn crop will sell. Should corn sell at more than $1.50 per bushel, Eastern Pennsylvania will get more feeders than it will have stables to hold, and there will be many empty feed lots in the Corn Belt. Should corn be cheap, $1.15 per bushel, feeders will be high, the "Corn Belt" feeding pens will be filled and Eastern Pennsylvania barns will hold less than their usual quota of steers for winter feeding.

The "Crop Seers" down at Washington who measure the harvest of unfruited and unreaped fields, and upon whose revealed vision expressed in what they call "Forecast", "Fickle Speculation" waits, tell us that the 1917 crop of corn will be 3,200,000,000 bushels. Of course that is an estimate, and as Bobby Burns said, "The best laid plans of Mice and Men aft gang aglee." These "wise" ones further inform us that if their prediction of more than a 3,000,000,000-bushel crop is realized, the Food Dictator, Mr. Hoover, will not find it necessary to give corn any attention, that the price will come down to surely $1 a bushel, and that the old law of supply and demand will attend to that. Our present experience with the operation of the aforesaid law of supply and demand has been extremely high prices for everything. The law of supply and demand regulated things pretty well when America was practically our only customer, but at the present time we are "Feeding the World." Its entirely right that we should give the rest of the Earth everything in the food line we can possibly spare, but we owe a duty to ourselves and that duty is "Feed America, first".

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Aug. 20, 1917.

Baled Hay and Straw.—Receipts, 132 tons of hay and 1 car of straw. Desirable stock was steadily held, but there was little trading.

Timothy hay, No. 1, large bales, $20@21; No. 1, small bales, $20@21; No. 2, $17.50@18.50; No. 3, $15.50@16.50; sample, $10@11. Clover-mixed hay—Light mixed, $17@18; No. 1 do., $16@17; No. 2 do., $14@15. Straw.—No. 1, straight rye, $13@13.50; No. 2 do., $12@12.50; No. 1 tangled rye, $12@12.50; No. 2 do., $11@11.50; No. 1 wheat straw, $11@11.50; No. 2 do., $10@10.50; No. 1 oat straw, $11@11.50; No. 2 do., $9.50@10.

Note.—It is hard to determine the exact total of hay for the local trade coming to this market, as a considerable quantity of the arrivals is probably for export.

Bran.—The market was dull and prices of spring bran were lower, with fairly liberal offerings.

Soft winter bran, in 100-lb. sacks, per ton, $38; spring bran, in 100-lb. sacks, per ton, $35@35.50.

NEW YORK HAY AND GRAIN

New York City, Aug. 20, 1917.

Feed.—There is no demand of any account for all grades of feed and the general position of the market is decidedly weak. Good concessions are available for Western qualities, especially that in transit, but consumers seem to be uninterested and apparently their supplies are sufficient to carry them for a time. City feed is also neglected and prices are also declining. Good pastures, weakness in other feeding grains and the prospects of larger stocks this season are the important bearish factors just now. Western spring in 100-pound sacks, $34.25; standard middling, $45; flour in 100-pound sacks, $54 to arrive; red dog to arrive, in 100-pound sacks, $62; city feed bulk bran, $36; 100-pound sacks, $38; heavy feed, 100-pound sacks, $49; red dog, $66; flour, $65. Linseed oil meal, $55.50 per ton.

Hay and Straw.—There is no change in the situation today. Offerings are exceedingly light at all harbor points, and while demand is not heavy it is more than sufficient to take care of offerings and the situation is wholly in sellers' favor even on low grade hay. Further arrivals of this low grade stuff have come forward by river boats, but has met somewhat better call in the absence of better grades. Rye straw generally about steady.

Hay.—No. 1, $22@23; No. 2, $20@21; Fancy clover mixed, $20@21; lower grades, $13@16. Straw.—No. 1 rye, $14@15.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Aug. 20, 1917.

Butter. — Wholesale prices were firmly maintained on fancy solid-packed creamery, while the under grades were pretty well cleaned up at inside figures. Fancy prints were scarce and firm, but unattractive stock was quite and irregular in value.

Western, fresh, solid-packed creamery, fancy specials, 44c; extra, 42@43c; extra firsts, 41c; firsts, 40c; seconds, 39c; nearby prints, fancy, 46c; average extras, 44@45c; firsts, 42@43c; seconds, 40@41c; special fancy brands of prints were jobbing at 49@52c.

Cheese.—The market was quite but firm under light offerings.

New York, full cream, fancy, June, 24¾c; specials higher, do., current make, best 24@24½c; do., choice, new, 23@23½c; do., fair to good, new, 22@22½c.

NEW YORK MILK MARKET

New York City, Aug. 20, 1917.

Some dealers are looking forward with apprehension to October when new terms will be made with the producers. Apparently the present unusual rates have stimulated production. While the surplus is moderate, on one road the production is so great that from fifteen to twenty percent of the product is being manufactured. Ordinarily, this surplus, greater than last March and April on this particular line would be required in the market at this time of the year. The reduction in demand, however, owing to the higher retail price, has added to the financial burdens of the dealers without providing a corresponding increase in revenue. The League rates for August to the producer of Grade B (barn score 55) in the 26-cent zone are $2.55 a hundred for 3 percent milk; $2.76, or 5.86 cents a quart for 3.6 percent milk and $2.90 for 4 percent milk.

The receipts of milk and cream in 40-quart cans for the week ending August 18, were as follows:

Railroad	Milk	Cream
Erie	41,586	2,755
Susquehanna	4,029	12
West Shore	13,290	1,876
Lackawanna	67,950	2,675
N. Y. Central (long haul) including Rutland	146,842	5,033
Ontario	38,152	4,147
Lehigh Valley	51,556	1,820
New Haven	2,198	35
Pennsylvania	28,910	335
Other sources	7,325	275
Total	401,838	18,963
Same week last year	396,217	20,378

Note.—Owing to a duplication in accounting for the receipts of milk and cream on the long haul and short haul of the N. Y. Central lines a mystery in the totals given this summer is cleared up. Considering market conditions, the totals have been remarkably high. It now appears that the receipts of Rutland milk have been reported under the head of both long and short haul. The duplication for July amounts to 121,183 cans, or approximately 28,000 cans a week. This total should be deducted from the footing for the month.—S.

ELGIN BUTTER MARKET

Elgin, Ill., Aug. 18, 1917.

Butter.—Fifty tubs sold at 40c.

TOBACCO MARKET

Market values are now largely speculative pending the action of the large factories which as usual will be in control of prices. Growers, however, do not seem inclined to consider less than $20 per cwt and that price would not buy nearly all of the crop. A price once established, local buyers will take an active hand and later factories will pay them an advance, it is predicted. Supposing this to be true the grower who holds his tobacco will get an advance as compared with prices at which the main part of the crop will move. According to a local market expert, farmers should not contract until ready to begin stripping and not then unless offered $25 to $30 per cwt. for wrappers, $10 to 15 for sized fillers, etc. If this cannot be done it is proposed to buy all offered crops paying cash in full on delivery and later to divide equally with the grower the $2 to $5 per cwt. packing profits which might result. Growers are reminded of the costly mistake of early sales last year and invited to call upon the informant for market and other information.

Dry weather and insects greatly hindered the growing crop during the week and the outlook is several percent lower than one month ago. Worms were never more persistent and with a continuation of present climatic conditions the damage thereby will be great. The Havana product is being harvested but little if any broadleaf will be cut for some time. So far as reported the damage by hail has not been great but the season of greatest exposure is now here and the breaking of the present dry weather may bring disastrous storms.—H. E. Tweed.

What will raise bumper crops of WINTER WHEAT at least cost?

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Bone & Meat Fertilizer

Enriches the soil Increases the profits

Ample proportion of Ammonia (4 per cent) produces better root growth; makes available the potash already in your soil. And big content (17 per cent) of Phosphoric Acid in that form which is available when most needed—when the wheat is heading next spring.

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THE BERG COMPANY

Established 1873

Ontario St. near Delaware River Philadelphia

DEALERS AND AGENTS WANTED

in unoccupied territory. Get our proposition "B"

The PERFECT CORN HARVESTER

Sold Direct $19.50 JUST the THING for SHOCK or SILO CUTTING

Works in any kind of soil. Cuts stalks—doesn't pull like other cutters. Absolutely no danger

Cuts Four to Seven Acres a Day

with one man and one horse. Here is what one farmer says: Oct. 18, 1916. Gentlemen: Harvester worked very successfully. The corn was from 15 to 18 ft. high and we cut about 80 acres for silage without delay. Yours truly, Brookwood Farms, New York, N.Y., M. H. Roberts, Supt.

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Send for booklet and circulars telling all about this labor-saving machine; also containing testimonials of many users. Send for this circular matter today.

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COUNTY NOTES

Broome Co., N. Y., (S.E.) Aug. 3.—Extremely hot weather for over a week has caused much suffering. A rain today has lowered temperatures which have ranged from 90 to 110 degrees. Some haying done but not nearly as much as usual for the time of year. Wheat is being harvested. Unless injured by wet weather it will give a good yield. Early cabbage ready for market; bringing 2½ cents per pound. Corn is looking fine. Old potatoes, $1 bu.; new ones, $2 bu. Butter, 43c lb.; eggs, 37 to 40c doz.; live fowls, 18c lb.; dressed, 20c; red raspberries, 23@25c; black caps, 18c qt.; wheat, $2.30 bu; oats, 95c bu.; corn, $2.40 bu.; ground oats, $61 ton; bran, $40 ton; corn meal, $86 ton; hay, $13@15. The outlook for an apple crop is very poor.—C. H.

Huntingdon Co., Pa., (C.) Aug. 13.—Weather has been showery and cooler, especially at nights. Pasture shortage and flies have reduced the milk supply. Sheep doing well, some already sold at good figures. Some poultry dying from cholera. Crops were harvested and stored in fair condition. Wheat, $1.90; chop, $3 per cwt; milk about $2.50 per cwt.; eggs, 34c. A good oat crop was harvested. Buckwheat and corn look very promising, farmers busy hauling manure and breaking soil for seeding wheat. Township roads very bad; no work. Health good.—C. S. Gilliland.

Venango Co., Pa., (N.W.) June 8.—First of July, wet; last, dry and warm, very warm now. Live stock looking well, high in price. Crops are as good as can be expected following the conditions in the planting season. Butter, 40c; eggs, 40c; new potatoes, $2; chickens (alive), 22c; hay, $16; straw, $12. Harvesting hay is well along, other work is not as far along as we would like. General conditions are of a good average.—W. J. Pringle.

Mifflin Co., Pa., (C.) Aug. 14.—Weather has been favorable for haying and harvesting the past month. Hay all made. Wheat all in. Most of the oats cut and some in. Live stock is in good demand and prices high. A few carloads shipped in here. Cows are still high in price, some few for sale. Dressed beef, 18c lb.; butter, 35c; eggs, 35c; apples, 80c; honey, 18c. No market for potatoes just now. All crops have been good. Potatoes and corn look very promising, a few more showers will complete it. Help is still becoming more scarce on account of the war. Ground in good condition for plowing and quite a bit being done. Some farmers hauling manure and some lime. Some thrashing being done.—J. H. Byler.

Cumberland Co., N. J., (S.) Aug. 14.—Quite dry for some time; beginning to hurt corn crop. Wheat threshing about done; crop exceptionally good this year. Millers are now paying $2.05 for it. Potatoes are about half dug. The crop in this vicinity is the lightest for several years. Many claim that the lack of potash caused the light yield. The price now is about $4 per barrel. The South Jersey Farmers' Exchange handles a large portion of the crop in this section. Tomatoes are coming on slowly. Buyers are paying 30 cents per basket at the car.—E. H. Sheppard.

NEW JERSEY CROPS—AUGUST

The Bureau of Statistics and Inspection of the New Jersey Department of Agriculture presents summary of crop correspondents' estimates for entire state on August 1, as follows: Oats, condition, 96 percent. Corn, condition, 97 percent. Buckwheat, acreage sown this year compared with acreage sown last year, 115 percent; do., condition, 96 percent. Hay, acreage of all cultivated varieties harvested this year compared with acreage harvested last year, 90 percent. Pasture, condition, 80 percent. Potatoes (white), condition, 80 percent. Sweet potatoes, condition, 84 percent. Tomatoes (late), acreage planted this year compared with acreage planted last year, 110 percent; do. (all), condition, 81 percent. Cabbages, condition, 91 percent. Onions, condition, 89 percent. Apples, condition, 70 percent. Pears, condition, 60 percent. Blackberries, total production, 93 percent. Raspberries, total production, 90 percent. Poultry, number of pullets this year compared with usual, 90 percent; do., number of adult hens at this time compared with usual, 80 percent. Eggs, production for July, 35 percent.

DAIRY CATTLE

Entire Benchester Farm Holstein Herd at Auction August 29th---Norristown, Pa.

Benchester Farm Offers for sale at the Auction of the Honorable W. M. Benninger at Norristown, Pa. on Aug. 29, twenty heifers of excellent individuality and breeding in calf to our herd sire Allamuchy K. A. Prince, a twenty-seven pound son of Korndyke Abbekerk. Also a daughter of the King of the Pontiacs and a great grand-daughter of Homestead Girl Sarcastic Lad De Kol, both of which have excellent seven-day and thirty-day A. R. O. records. As well as these there are several other excellent cows and heifers and our herd sire himself. Write for sales book to the Honorable W. M. Benninger, at Benninger's, Pa. For any other information to

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Spot Farm Holsteins $15 to $20

For high grade calves either sex express paid in lots of 5. 40 large high grade and 12 registered Holstein cows due in Aug. and Sept. 35 registered heifers 1 to 2 years old. 40 high grade heifers, and registered bulls.
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"NO HORNS"
Naturally Polled Holstein-Friesian
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High Grade Holstein Calves
Either sex, beautifully marked, $20 each. Reg. Holstein cows, heifer and bull calves, shipped anywhere.
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Holstein Sale Sept. 20
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Holsteins Herd of 35 cows, 15 heifers, 5 bulls to choose from. Half grade and half registered. All have a 3-year cow testing association record for milk production. Some with A. R. O. records.
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Purebred Holsteins four bull calves $10,000 breeding—$75 each. Sons of our $10,000 herd bull grandsons of the $50,000 bull. Also 2 at $50 and $60. First cheque takes.
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Reg. Holstein bull calf, born March 31st, 1917. Dam, a fine cow, has just made 17 lb. 3 year old record. Sire is son of 23 lb. cow; price right. Inquire of J. B. Winkelblech, Lewisburg, Pa.

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C. H. Carter, Whitguern Farm, West Chester, Pa.

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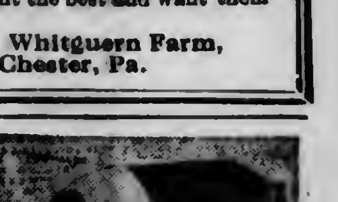

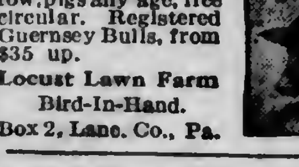

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Vol. 42—No. 9. PHILADELPHIA, PA., SATURDAY, SEPTEMBER 1, 1917. 75 Cents per Year

The Hill Farmer's Greatest Problem

Preventing Soil Erosion and Saving Fertility from Washing and Leaching

The farmers of the prairie belt are exempt from the worry and loss experienced by their brothers in the hilly districts, due to erosion, or washing of their land. Practically all of the farms of Pennsylvania, New York and West Virginia are damaged to a greater or lesser extent by erosion. The total loss to the farmers of these states can not be computed, but it certainly amounts to large sums annually. The importance of the problem is apparent when we consider that erosion has caused some farms to be totally abandoned, a large area of others left practically as waste land, and the productive capacity of all farms in the hills lowered to a serious extent.

The value of a farm is dependent upon the fertility of the soil to a greater degree than on any other single condition. Loss of fertility is so often due to erosion that it is evident that more harm is done to the soil in this manner than in any other way. The most noticeable effect of erosion is the formation of deep gullies, or washes, extending down to the subsoil, or deeper. The damage by gullies is apparent to all, but there is a more serious waste constantly going on in the form of surface washing, whereby the organic matter, available fertility and loose particles of the soil are carried away by the accumulated water which rushes down these gullies. The loss of plant food from this source on some soils of even moderate slope must be far greater than the amount appropriated by the crops growing on the land. The plant food consumed by growing plants can be and usually is returned to the soil in manure and decaying organic matter, while the plant food removed by the process of erosion can never be saved and returned to the soil from which it came.

It is safe to state that if all the plant food contained in soil of average fertility, together with the amount added from year to year in manures and fertilizers, could be preserved for the use of plants, instead of being annually wasted by erosion, crop production would be doubled within ten or twenty years. The Wisconsin Experiment Station proved by accurate analyses the percent of nitrogen in the soil of an eroded hillside to be 0.340 percent, while the sedimentary soil of the bottom land at the foot of the slope contained 0.450 percent. The soil of the hillside contained only 0.085 percent of phosphoric, while the bottom soil contained 0.140 percent, or almost twice as much of this element which is so necessary to the production of seed. It is probable that these soils were once equal in fertility, when the hillside was protected by the original forest growth, and before erosion had begun its work of transporting the soil to a lower level. Washing and leaching had done their work in the soil.

Let us imagine a horizontal line drawn thru any area or any individual farm in such a position that one-half of the plant food present in the soil will be above the line, and one-half below it. By the process of erosion, this half-way point will be moved a little lower each year. The line is probably many feet lower today than it was 50 years ago. Geographers state that the continents are decreasing in mean hight, and increasing in mean breadth. This also is due to erosion, but the fertility of the continents is being lowered more rapidly than their hight. For the physical restoration of the hills, what can we do to keep this division line of fertility stationary during the next 50 years?

The soils of wooded slopes are not yet eroded, except in rare cases. The protecting blanket of leaf mold, the decaying organic matter distributed thru the soil, the weeds and grasses growing on the surface, all served to absorb and hold the rain as it fell, instead of allowing it to run from the surface. Clean cultivation, as we use that term in our farm practice, is an impossibility in the forest. However, it is not possible to always keep our hillsides covered with forests, hence we must face the problem of how to reduce soil washing to a minimum. This is a three-fold problem, and embraces the composition of the soil, care of the soil, and distribution of vegetation. These problems are the result of the depletion of organic matter, and their solution is to restore as nearly as possible the condition of the soil in the original forest.

THE OLD OAKEN BUCKET, POETIC AND PICTURESQUE BUT UNSANITARY.

Composition of the Soil

Different classes of soil vary greatly in their ability to absorb and retain heavy rainfall. When two or three inches of rain falls in an hour, as it often does, more or less surface washing will occur on any type of soil, where the surface has sufficient slope and is not protected by vegetation. Coarsely built soils, including gravels, gravelly loams, sands and sandy loams absorb water more readily than heavy soils, such as clays, clay loams and silt loams. Humus, or organic matter, when partly or wholly rotted, is able to absorb great quantities of water, hence soils which are rich in organic matter are less subject to erosion. A very moderate slope of three percent may be seriously eroded by a heavy rain if the soil is close and compact, forcing the water to run on the surface. The damage usually increases with the percent of the slope and the velocity of the water. It is stated that water with a velocity of two miles per hour will carry away 64 times as much soil and plant food as water flowing one mile per hour. In the hilly sections we often see fields with a 15- or 20-percent slope which are being farmed without serious damage by erosion. However, these extremely steep hillsides require very careful treatment, and if the soil is inclined to wash easily, the safest policy is to keep them in permanent pasture, cultivating only fields with a less abrupt slope. Working the soil across the grade rather than with it will help, but permanent cropping is better.

Distribution of Vegetation

The care of the soil is so directly based upon the amount and kind of vegetation that we may consider the two subjects together. The soil of the original forest was, as we have noted, light, porous and abundantly supplied with organic matter, and well protected by bushes, grass and weeds, whose roots formed a network extending deep into the subsoil. When this growth was removed and cultivation begun, the store of organic matter in the soil was slowly but surely depleted. Then erosion began its work, first on the steeper slopes, then on the more level fields, and more organic matter and fertility was washed away year by year, which increased the damage by erosion, and so the evil increased to the present day.

To remedy this evil we must increase the capacity of the soil to absorb water: First, by adding humus in the form of manure and green crops plowed under; second, by breaking up a compact, impervious soil and subsoil, whenever they are present, by deep plowing and subsoiling. These methods must be faithfully followed for years before a badly washed soil can be restored to anything like its original condition. But as the process of washing away the soil increased the loss by erosion year by year, so now each step in the improvement of the soil makes the next step easier by increasing the power of the soil to resist washing. It is an endless chain of causes and effects, in one instance breaking down, and in the other building up. As in all other lines of improvement, a start in the right direction is the first and absolutely necessary consideration.

The water which accumulates on long slopes and extensive drainage basins must be disposed of in some manner, and the best plan is to draw it off by means of broad, flat watercourses which are kept in permanent sod. These watercourses will naturally follow the lowest depression on the slope, but extremely steep places should be avoided so far as possible. Willows or other hardy bushes can be planted in the water courses where the velocity of the water is great enough to form gullies. Where gullies have started in these steep places, they may be filled with brush, stones or stumps to break the force of the water. Dams formed in this manner are the most suitable means of filling these gullies as they catch the coarser particles of soil and drift, and thus gradually fill the ditch. To be most effective, such a barrier must be dense enough to hold back the water; a quantity of straw or coarse hay, held in place by stones or brush, is suitable for this purpose. If the ditch is a long one, the dams should be near enough to each other that the backwater will extend back as far as the next dam above. By sowing rye and a thick seeding of grass on the soil which is caught in these dams, a sod can be established before the heavy rainfall of summer, and the ditch can be maintained as a permanently sodded watercourse.

8-16 TRACTOR HANDLING THREE TEN-HOE DRILLS.

Hillside fields should be plowed in narrow strips, not over 10 rods wide, and the strips should run as nearly as possible parallel with the contour of the hill. This method of alternating strips of grass with corn or other crops which demand clean cultivation will result in the minimum of loss from washing. On the steeper slopes such crops as soybeans, cowpeas and the small grains should be grown instead of corn, potatoes and other cultivated crops. Where these crops must be grown on hillsides, the cultivation should be given lengthwise of the strips, and not up and down the slope. By observing this precaution, and leaving a strip of sod below each cultivated strip, surface water will be checked and absorbed before it has gained sufficient velocity to start washing.

It is the general belief that in plowing hillsides the furrow slice should be turned up hill, and that water more readily flows in between the furrow slices in this position. Steep hillsides should not be plowed more often than every fourth year, as it is more profitable to keep them in meadow or pasture. It is often desirable to convert timbered slopes into permanent pasture for stock. In doing this it is not advisable to remove too many trees and bushes at one cutting, as the soil may be seriously gullied by water flowing down from the hilltops before the surface is protected by sod. Three or four years are required to grow a heavy bluegrass sod, and after this is formed there is little danger of erosion on the steepest slopes which can be safely pastured. In such locations the trees should never be entirely removed, as this is likely to result in slips or landslides which disfigure the surface and reduce the value and productive capacity of the pasture. A few trees of large size scattered over the pasture afford shade and shelter for stock, and their roots penetrate deep into the subsoil and help to keep the soil in place and prevent landslides.

Some of the most productive farms and the happiest homes are found among the hills. The owners and tillers of this rough land have acquired by training and experience a degree of skill in the treatment of their hillside fields. They have learned that when carelessly farmed these hillsides deteriorate so rapidly as to become almost worthless in a few years. Careful and considerate treatment of the soil is necessary to produce profitable crops, and at the same time conserve soil fertility for the future use of themselves and their successors. It is only another instance where knowledge is power on the farm.—John Marsh, Jefferson Co., O.

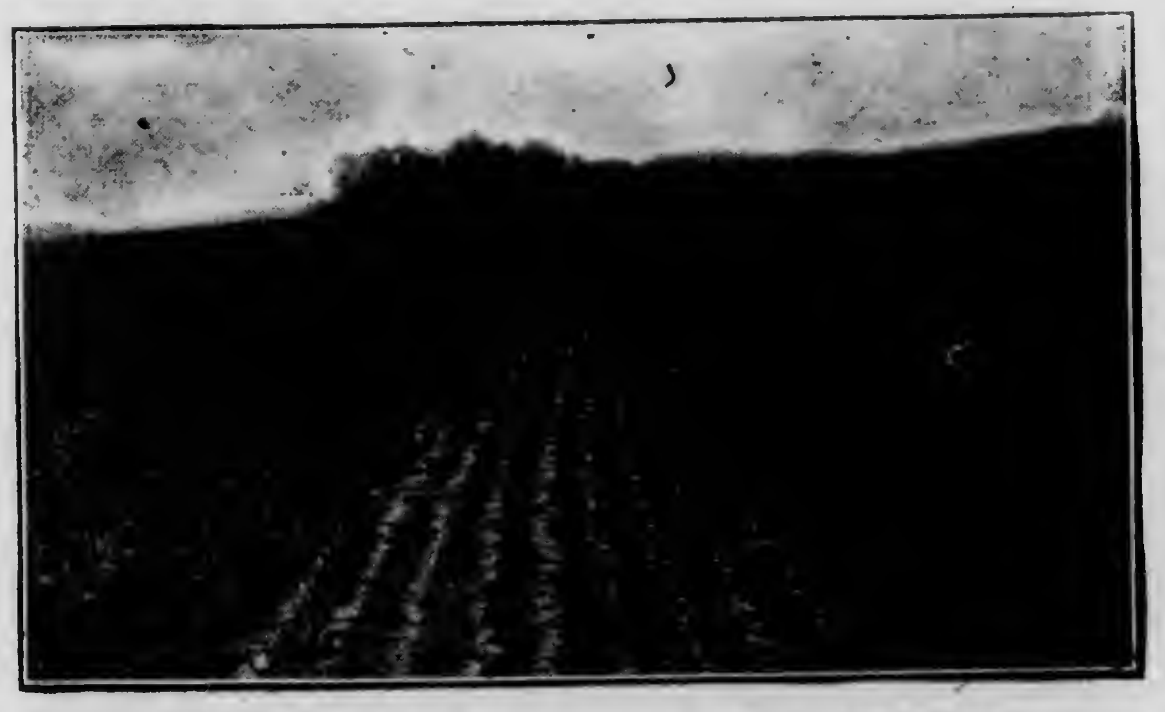
Effect of Fertilizer on Wheat

By E. S. BRINTON

Chester County, Pa.

The question often arises: Does it really pay to use commercial fertilizers, or is their use a fad of the age resulting chiefly from good advertising? It is rather an important question because it involves not only the actual cost expended by the farmer, but also frequently concerns his whole system and routine of farm management. Few men are capable of using laboratory methods on their various fields and soils, and a large proportion do not care to accept as literal truth the theories worked out by scientists and chemists. In a broad sense they are probably right as a visible proof is more convincing than an abstract theory.

Therefore would it not be a profitable and practical habit for each farmer to do a little experimenting on his own land? It need not be an elaborate or expensive arrangement. In most cases it would mean merely leaving as a check plot a strip of field unlimed or unfertilized, without manure or inoculation. Records should be kept as usual showing the general treatment of the soil in that field, and as the crop matures there will be positive evidence as to what is worth while in the fertilizer line.



WHEAT FIELD SHOWING A SKIP IN SOWING FERTILIZER.

An interesting example showing the results of commercial fertilizers came to our notice the past year on a field of wheat which was planted about October 1, 1915. Conditions were favorable and it all did well except a narrow strip the width of the grain drill that ran partly across the field. The difference was noted in the field as soon as the wheat was well up. The plants in that strip were weak and the timothy scarcely showed at all. By spring the difference was even more marked and then the accompanying photograph was taken. The wheat plants did not "stool out" like the rest of the field; the heads were 10 days later in appearing, and even at harvest time the strip could be plainly noted because it was thin in the ground and slower in ripening than the rest of the field.

Fortunately, complete field records were kept, showing crops, fertilizers and yields for each year; and from these a good history of the soil could be secured. The usual 5-year rotation of eastern Pennsylvania had been followed: Clover, timothy, corn, oats, wheat. A heavy coat of manure was applied for the corn crop. In the fall of 1915 two tons of ground limestone and 500 pounds of 16 percent phosphate were applied to each acre. As far as could be seen from the records the weak strip was not caused by any special weather or crop conditions. We know that neither lime nor manure were omitted so the only conclusion left was that on account of the carelessness of the operator, the drill ran empty and the phosphoric acid was missing. In the early summer of 1917 the strip was again conspicuous in the grass. Compared with the remainder of the field the clover plants were thin on the ground and weaker, the timothy was much shorter: and this difference continued to be noticeable until harvest time.

These results showing lack of phosphoric acid were rather surprising, because previous to the use of lime basic slag had been used generously and was considered a good investment. However, it was noticed that the clover was failing; apparently because of lack of sufficient lime, and to remedy this with least expense an entire change was made.

It was found that acid phosphate and lime could be purchased and applied separately, at less cost and with greater benefit to the soil than when combined as basic slag. The acid phosphate supplied a high percentage of available phosphoric acid. The lime used was in form of ground limestone but as it was applied on the wheat ground, the action of rains and weather for six months helped to prepare it for the clover.

Along with other things the European war has affected the fertilizer market. Potash is almost unprocurable and consequently complete fertilizers are growing more scarce. The Pennsylvania State Department of Agriculture reports that during the past year the number of brands of complete fertilizers has decreased from 422 to 217. However, our agricultural advisers have advanced a theory that will probably assist in the present shortage. They claim that our clay soils naturally contain a certain amount of potash and need chiefly lime and humus to make the potash available. If this is really correct it will make the fertilizer problem comparatively simple on clay soils in the great dairy and stock raising districts.

Manure supplies humus and nitrogen in abundance and is applied on the corn crop, for corn is a rich feeder. Oats and wheat cannot stand too much nitrogen, or the straw will be too rank in growth and fall badly. They need phosphoric acid to stiffen the straw, to fill out the grain and produce heavy heads. The clover following must have an abundance of minerals: Lime to neutralize the soil acidity, and liberate the potash so that the nitrogen-gathering nodules may do their best work.

Knowing these bare necessities the next step is to supply them to the crops in the proper quantities and at a season and in suitable form so that the plants may have the food available when most needed. The most profitable results are not always accomplished by spending the most money on fertilizers, but are more likely to be found where intelligence and thought are used. It is worth while for each farmer to do some experimental work, and to try out on his own soil the advice found in farm papers, bulletins, and institute lectures.

By the Way

By

Father Penn

I had a very interesting and instructive automobile ride the other day viewing the work and crops on a number of adjoining farms, all of which are operated under one management. They have been conducted a number of years and are apparently successful, judged by the splendid appearance of the crops and the plans for continuing and increasing the operations.

One member of our company, who by the way is the secretary of a state chamber of commerce, was enthusiastic over this plan of farming and prophesied that the time would come when all farming would be done on this plan because it was a more efficient system than individual effort on individually owned farms; that there was too much lost effort and duplication by the present system, while if the factory system were followed and a number of farms were thrown together and owned, or at least controlled, by one management while the farmers became simply laborers under factory hours and regulations, more food would be produced and produced more cheaply.

CAREFUL SEEDING THIS FALL MEANS A PROFITABLE AND MUCH-NEEDED HARVEST NEXT SUMMER.

Naturally, I opposed the plan altho admitting that it was possible that greater efficiency might result. Agriculture means more to a country than the production of food. So many would-be reformers fail to recognize this fact and see nothing more than the mere necessity of growing the largest possible crops. Agriculture and agricultural people have played an important part in the social welfare as well as in the economics of a nation. All thoughtful people agree that the best thought, as well as the best brawn, has had its origin on the farms of the nation. From them has come the blood, figuratively and literally, which has made this the leading, progressive nation of the world. This is not entirely due to the hard work and fresh air of the country, but is largely due to the qualities developed by exacting responsibilities and the persistent discharge of onorous duty. Farm boys and girls from earliest infancy understand that they have certain and important work to do and that that work is necessary to the defense and maintenance of the common home. These activities develop qualities of character essential to success, which qualities are too often lacking in those who have not been under the necessity of contributing regularly from childhood to the common welfare.

We are hearing much at present about the desirableness of maintaining democracy and extending it to other peoples. We know that such a government gives the largest opportunity for the development of the individual and secures for him rights which he cannot, or at least does not, have under any form of monarchial government. But have we realized that a real democracy depends for success upon more than the form of government? Have we realized that the people must have developed the capacity for self government thru the performance of individual responsibilities in civil life? Autocracy in civil life, or working under the absolute dictation of a manager, is no more to be desired in the development of the individual than is autocracy in government. America has become the leading democratic nation of the world chiefly because its population has been composed largely of rural people who have become self-reliant and capable because of the responsibilities arising out of personally conducted farms. This assertion may be challenged, but we may point to any country where the land is held and managed by landlords and farmed by peasants to find people lacking in initiative and the capacity for self government.

For these and other reasons the farm and home as now conducted must be maintained. True, there are many needs for further improvement in rural life. It is needful that there be a greater willingness and ability to co-operate among farmers. Co-operation in the right spirit will bring to them all that the dictation of a manager or landlord would bring in the way of development and efficiency, and without the dwarfing effect of decreased responsibility. The present-day tendency to concentrate management and responsibility which we see on every hand in the factory system is not in keeping with the purpose to establish and extend democratic government. The factory system will, for a time, produce more potatoes, engines, or little red wagons but it will not produce men who will write declarations of independence, or rush to Bunker Hills in the defense of rented homes. Efficiency as developed by modern factory methods is all right as applied to the production of human necessities, but when it seeks to transform humanity itself to the basis of machine-like efficiency it will fail.

Clean, Healthy Wheat Seed Essential

Sound, clean, healthy seed is the first requisite for the largely increased wheat crop. Whatever the source of supply, farmers will find it to their advantage to see that only good seed is planted.

If you have seed from your own crop which is satisfactory so far as variety and general condition are concerned, lose no time in getting it into shape for storage until planting time. The fanning mill is the farmer's best friend in this task. If you do not have a mill and are unable to obtain one, borrow or rent your neighbor's mill. Or several farmers can join in buying one. A fanning mill removes weed seeds, smut and shriveled grain and leaves only plump kernels, practically every one of which may be depended upon to produce a thrifty plant. After it is cleaned, however, the seed should be treated in order that the smut may be prevented. Scab is less likely to be prevented by seed treatment, but the use of the fanning mill will assist materially in improving the crop grown from seed known to have contained scabby kernels.

If you are dependent on outside sources for your seed, buy from your neighbor if possible so that you may be more likely to get seed well adapted to your conditions. It is advisable to buy as soon after harvest as possible as at this time prices are likely to be lowest. If you delay, your neighbors may dispose of all their surplus grain and you may be forced to plant seed grown under conditions radically different from your own. If you patronize a seedsman, insist on getting seed grown as near your section as possible.

If seed is affected by disease, careful inspection will usually disclose the fact. The presence of stinking smut in wheat is indicated by the odor and the presence of scab by the appearance of the kernels. Purchased seed should, of course, be cleaned and treated for the destruction of the spores of disease-producing fungi, if the examination shows this to be necessary.

In choosing varieties of wheat the grower should be guided by the experiences of his neighbors and the advice of his state experiment station. This is true also of rye, but there are available fewer varieties of rye than of wheat. The stations can furnish comparative statistics on the yields and behavior of a number of varieties of the two cereals.

After the grain farmer has procured a supply of satisfactory seed he should store it carefully so that it will keep in good condition and will be safe from the depredations of rats, mice and insects. Bins which are supposedly rat proof are available on practically all farms and it will pay farmers to see that they are kept in good condition to keep out the rodents.—Dept. Circular.

Cost of Burning Limestone

Some interesting figures on cost of burning limestone are furnished by C. L. Goodling, the farm superintendent at the Pensylvania State College. Last fall a lime pit, 30 feet in diameter and 12 feet high, was constructed on the college farm. Beside the lumber used in the base, which was 18 inches thick, the pit contained 28.66 tons of coal and 307,964 of stone. The cost of building the pit and burning the lime is given as follows: Coal, $64.35; laying foundation, $5.03; hauling coal and wood, $24.41; putting coal on stack, $5.45; breaking stone on stack, $67.13. Total, $166.37.

Team labor was charged at 40 cents per hour and labor at 17½ cents per hour; coal, $2.25 per ton at railroad station. Assuming a good burn, this amount of stone should make 2,000 bushels of lime. Exclusive of the cost of quarrying the stone, the cost per bushel for burning amounts to $.083. The cost of quarrying is so variable that it was thought advisable not to include it in the cost of burning. It took about a week for the heat in the stack to become uniformly distributed. The highest temperature of 840 F. was noted 6 days after lighting.

Alfalfa Failures

Recently fields of alfalfa which were not doing well have been visited with the idea of determining the cause of failure. The greatest cause has been sour soil. Alfalfa requires plenty of lime and many men do not use enough. Practically everyone inoculates properly, altho one man was found who spread soil over the field this year in preparation for seeding and left the soil in the hot sun without harrowing it in. Under such conditions he would have had a failure, as bright sun will kill the needed germs. The soil should be spread on a cloudy day or late in the day and harrowed in immediately. Two fields have been found where the stand was good and the first cutting excellent, but the second growth appeared thin, brown and unhealthy. In both cases the soil was in good condition, lime plentiful, and inoculation all that could be desired. Altho it was not proved, it is reasonably certain that imported Turkestan seed was sown. This result could be expected. Care must be taken to use domestic seed grown on non-irrigated land preferably in the central or northern states.—Cumberland Co., N. J., Farm Bureau Report.

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Md. State Dairymen Meet

Organization Enthusiastically Fostered

The largest meeting of dairymen ever held in Maryland was held Saturday, August 18, in Baltimore, there being fully 1,500 farmers present. The main object of the meeting was to perfect the organization and to discuss prices for the coming winter.

The meeting was called to order by President D. G. Harry and after hearing the reports of the secretary and treasurer, he outlined the purpose of the meeting, told of the increased cost of producing milk, of the great many dairy cows being slaughtered, and the need of a higher price to the farmer to enable him to stay in the business. He also spoke of the advantage and need of organization to protect the dairy industry. Mr. R. W. Balderston, secretary of the Inter-State Dairymen's Association, spoke on organization and told of the workings of that organization and what it had already accomplished. President Willits, of the same association, spoke on the importance of organization to protect the dairy interests.

Chairman I. W. Heaps of the price regulation committee gave a report of the different meetings with the dealers and stated that a price of 25 cents per gallon for August and 28 cents for September was agreed upon. This report was accepted and a resolution offered and carried that power be given the price committee to arrange for October prices on the 15th of Sept.

The surplus committe reported that to encourage winter production they had agreed with the distributors to have an average of their shipment during the three fall months, October, November and December used as a basis of their shipment for the three summer months, April, May and June; and all over the average shipment for those three months, only, would be settled for by paying one-half the regular price.

Mr. A. D. Radebaugh offered a resolution that the association co-operate with their local branches located on the Eastern Shore of Maryland and whose milk goes to Philadelphia. The resolution was adopted unanimously. Figures were presented by W. A. Wheeler, giving the cost of producing milk from a cow giving 5,100 pounds of milk at the present prices of feed, and comparing them with the cost a year ago. At present prices the cost is 29½ cents per gallon; a year ago it was 21 cents. Mr. Taban Sparks presented figures from the farm of John M. Dennis, Treasurer of Maryland, showing the cost of producing milk from a high producing herd averaging 8,000 lbs. of milk. The cost at the farm was 26½ cents per gallon. At the close of the meeting the association gave to the public the following statement of facts:

"In view of the controversy between the producers and distributors of milk over the price to be paid by the distributors to the producers, the producers desire to call attention of the public to the following statement of facts:

"(1) From figures compiled by the U. S. Department of Agriculture, it appears that average prices paid to producers of milk thruout the United States were:

1912......3.57 cents per quart.
1913......3.85 cents per quart.
1914......3.80 cents per quart.

"(2) The average retail prices of milk in representative cities in the United States were:

1890 to 1900......6.8 cents per quart.
1901 to 1905......7.1 cents per quart.
1906 to 1910......8.1 cents per quart.
1911 to 1915......8.9 cents per quart.

"(3) The relation of the retail prices of milk to other commodities is shown by the following table, compiled by the dairy division of the department:

"Increase in prices, 1890 to 1915—Of milk, 40 percent; of fresh eggs, 75 percent; of round steak, 205 percent; of wheat flour, 60 percent; of five staple crops, 80 percent; of potatoes, 65 percent; of bacon, 225 percent.

"It will be observed that the increase in the retail price of milk up to the end of 1915 was only one-half that of five staple food products, while it was less than one-fifth that of animal products, such as beef and bacon.

Cost of Production High

"(4) According to McNutt in 'The Modern Milk Problem,' the cost of production of milk increased from 1890 to 1911 fully 66 percent.

"(5) The U. S. Department of Agriculture in a circular issued by the dairy division presents the following facts:

"Milk at 12 cents a quart is as cheap as sirloin steak at 17 cents a pound or eggs at 15.9 cents a dozen, and

"Milk at 15 cents a quart is as cheap as sirloin steak at 21.3 cents a pound or eggs at 19.8 cents a dozen.

"It can be seen, therefore, that milk even at 15 cents a quart is a cheap source of energy as compared with sirloin steak and eggs.

"(6) These figures are given here in order to demonstrate to the consuming public that the prices paid for milk at the present time are far below the value of that product when measured in terms of other foods, which have increased in price in far greater measure than has the price of milk to the consumer.

"(7) The dairy division of the U. S. Department of Agriculture has authorized the following statement:

"'An investigation into the cost of producing milk has been conducted by the department for the past year or more in three states, and it has recently inaugurated such an investigation in three additional states. The summary of 20 investigations into this problem, made in seven states, namely, Indiana, Michigan, Wisconsin, Pennsylvania, New Hampshire, New York and Massachusetts, is as follows: The cost of milk is based upon the average production of a cow giving 5,902 pounds of milk a year, and the figures are based on 100 pounds of milk, or 46½ quarts, requiring: 33.4 pounds of grain, 44.6 pounds of dry roughage or hay; 145.3 pounds of succulent roughage or silage, 8.7 cents' worth of pasture, 3.5 hours of man labor and 0.5 hours of horse labor. The above is 75 to 80 percent of the total cost of production. The balance is covered in overhead charges such as interest on investment, insurance, etc.'

Figure Cost Over 7 Cents

"If grain is quoted at $50 a ton, dry roughage at $17.50 a ton, succulent roughage at $10 a ton, man labor at 15 cents an hour, horse labor at 20c an hour, the above formula will furnish a cost of $3.33 for 100 pounds, or 7.15 cents a quart, or 28.6 cents a gallon on the farm. To this must be added at least 2½ cents per gallon for hauling, freight, etc.

"(8) These figures are believed to be reasonable; yet until the spring of 1917 the producer received only 18 cents, and during May, June and July only 21 cents a gallon for his milk at the farm. With pasture short, labor scarce and high, feeds high, and with every other expense in no prospect of becoming lower, it is evident that the price of milk to be paid to the producer under the agreement made for the month of September is not equal to the cost of production.

"The public should bear in mind that the 28 cents a gallon paid by the distributors to the farmer means actually less than 26 cents to the producer, because 2 cents must be deducted from the price of every gallon to cover railroad freight charges.

"In view of these figures the milk producers are not taking advantage of a war situation to demand exorbitant prices. They are meeting a difficult situation in a patriotic way. They are willing to bear a loss for the present in the hope that as the public becomes acquainted with the real conditions they will not object to paying a price for milk which will enable the producer to remain in business and earn a reasonable profit."

Maryland Producers Commended

The American farmer as a class has good sense and good judgment when he has the opportunity to make his decisions with full knowledge of the facts. This truth was never more fully demonstrated than at the mass meeting of the Maryland State Dairymen's Association. Its officers and price committee had labored faithfully to secure an advanced price for September. The Baltimore dealers had offered them a compromise and they had accepted it as the best that could be done under existing circumstances. The chairman of the committee reported to the meeting and fully explained the conditions. Without a dissenting voice, the assembly voted to accept the report and it was done.

They agreed to accept 28 cents per gallon, f. o. b. Baltimore for 4 percent milk as the price for the month. We can certainly congratulate them on their well-tempered action in the face of the high cost of production.

The temper of the whole meeting was fine. Those hard-working Maryland dairymen realized that the nation looked on them to conserve its food supply and to do it, so far, without profit guarantees or an adequate supply of labor. Many had made a long trip after the morning milking had been done at an unusually early hour. They appreciated that the public did not know of the conditions under which it demanded that they should continue producing. They knew that these facts had been kept from it by the public press. They realized that their grain crops would necessarily be marketed at a disadvantage thru the dairy cow. And yet — and yet — knowing these things, without bitterness or vindictiveness, they gave their officers and their business a vote of confidence and hoped for better times.

The membership report showed that the organization is growing in every county. The officers hope to double it the coming year. The report of the President, Mr. D. G. Harry, outlined a platform that has broad and sane and the association is fortunate in having such capable leadership. He struck the keynote when he said that "we must be sure that our position is right and then must take every honorable means to make the public realize the justice of this demand".

The spirit of co-operation was exemplified in the visit, by invitation, of the President and Secretary of the Interstate Milk Producers' Association, who were asked to tell briefly of the activities of that organization. All dairymen supplying Baltimore and adjacent markets should join the Maryland State Dairymen's Association at once, and thus in the only practical way uphold it in its efforts to better the condition of Maryland dairymen. —B.

The Food Administration and Milk Prices

Milk Producers Confer with Mr. Hoover

"Co-operation" is the slogan of the Food Administration and Mr. Hoover in the campaign to conserve the food supply of the country. Representatives of nearly all of the milk producers' organizations from Iowa east met in Washington on August 21, at the suggestion of Mr. Hoover. A preliminary meeting the previous evening had been held at the Hotel Raleigh, at which an organization had been perfected with the election of Mr. Potter, of Elgin, Ill., as Chairman and Mr. Pattie, of Boston, as Secretary. Mr. Cooper, of New York, told of the reason for the call. He explained that Mr. Haskell, the dairy advisor of Mr. Hoover, felt that he himself was a creamery man and not able to properly represent the producers. On Mr. Haskell's committee are only two representatives of organized producers.

Furthermore, Mr. Hoover proposes an inquiry into the cost of milk production and distribution to be conducted by an expert commission, consisting of Prof. Warren, of Cornell, and Prof. Pearson, of Ill. University, experts in milk production; Prof. Clyde L. King, of the University of Pennsylvania and Chairman of Tri-State Milk Commission and three men from U. S. Department of Agriculture not yet named. After a very full discussion of the matter, Mr. Milo Campbell, of Michigan, Pres. of National Federation of Milk Producers, offered the following resolution.

"To the Honorable Herbert Hoover,
National Food Administrator:

"At a meeting of representatives of milk producers, largely attended, held August 21, 1917, in Washington, the following Resolution was unanimously adopted:

"Whereas, the production of market milk, as well as of products made therefrom, primarily begins upon the farm, and whereas, there are now and in rapidly increasing numbers, large organizations of dairy farmers known as associations of milk producers, whose members own and milk the dairy cow, and whereas, the sentiment of milk producers wherever voiced in these great associations has been one of patriotic service to the country in the matter of supply and conservation of milk at just and reasonable prices without extraordinary profit, and, whereas, we believe that no rational administration of the sale of milk or of milk products can be had or undertaken without a primary inquiry and investigation into the actual cost of producing raw milk, and that upon such cost, when found, should be based the final cost to the government and to the consumer of milk and of milk products, whether such price be fixed or advisory, and

"Whereas, it is the unanimous opinion of the delegates assembled that in order to conserve and stabilize the production of dairy products in the interest of both producer and consumer, and in harmony with the National Food Administration, that the said producers of market milk seek to establish closer relations with said Food Administration, and to the end that the National Food Administration may be assisted in securing facts and data upon which to base findings as to the cost of milk production and of milk products;

"Therefore, Be It Resolved, that a committee of five, be, and it is hereby appointed, which committee shall act for the various milk producers' associations and dairy farmers, members thereof, in supplying to such committee or persons as the Food Administrator may designate all the facts and information obtainable by them relating to the cost of producing milk on the farm, and that said committee shall in every way possible, aid and co-operate with the Food Administrator to the end that the products of this important source of food supply shall be available at as near cost, plus a reasonable profit, as possible."

The chairman was instructed to appoint a committee of five, with himself as head to collect and present production costs to this commission and in general, to represent the producers in Washington. All organizations represented are expected to pay a pro-rata share of the expenses of this committee. As members of it, in addition to Mr. Potter, were appointed Mr. Cooper, of New York State, Mr. Campbell, of Michigan, Mr. Ingersoll, of Ohio, and Mr. Pattie.

On the morning of August 21 the delegates gathered at the office of Mr. Haskell. Mr. Requa, assistant to Mr. Hoover, explained very fully the details of the investigation and Mr. Hoover spoke for some minutes on the general purposes and plans of his administration. He dwelt on the importance of co-operation in food conservation. He said that no compulsory standard price for milk was contemplated, either at wholesale or retail. He felt that a public pronouncement of costs of production and distribution would enable the producer, the distributor and consumer to get together at a mutually satisfactory figure. He emphasized the fact that the ultimate price must allow the producer an adequate profit above the cost of production, when all reasonable care is taken to reduce unnecessary expenses connected therewith. Mr. Hoover referred to the promise of mill operators to reduce the cost of by-products and thus co-operate to keep down the price of milk, for to quote his own words, "It is easier to adjust the price of bread than the price of milk."

PERMANENT BUILDINGS. STONE BARN & TILE SILO ON J. H. DEWEES' FARM, CHESTER CO., PA.

We were assured many times during the day that the Food Administration had never intended to advise consumers to cut on milk consumption; that at present prices milk is considered an extremely economical food. All felt the need for promptness in the inquiry and figures are promised before September 15. All dairymen having authentic cost figures derived thru cow testing associations, etc., are instructed to forward the same direct, thru their respective associations to Mr. B. R. Cooper, 110 W. 40th st., New York City. County agents and all dairy organizations having authentic figures on production costs should get them in at once. This is in the interest of your industry. Act promptly.—B.

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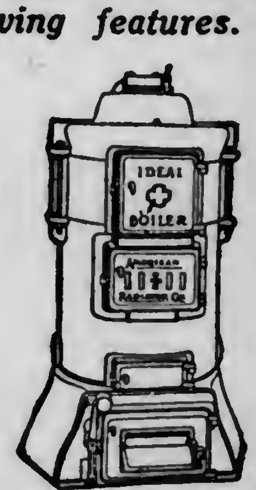

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PHILADELPHIA, PA., SEPTEMBER 1, 1917.

LIVE STOCK PRICES

Last week saw record prices paid on two leading classes of live stock. The Chicago market quoted hogs at $20 per hundred pounds on Tuesday and cattle at $15.50 per hundred on Wednesday. These quotations were on top quality in both cases, but both established new records in the history of that market. With best calves quoted at $15.50 per cwt., best sheep at $11.10 and best lambs at $16.75 per cwt., on the same days, the live stock markets are particularly promising to the stock raiser. The selling price is but half of the story, however, and with the present range of prices on feeds there can be no appreciable decrease in meat prices and leave a profit to the feeder. The probable influence of corn prices this fall on the beef and pork prices of next spring and summer is well shown in the report of our Lancaster Live Stock reporter in our last two issues.

But regardless of the immediate market prospects there would seem to be abundant promise in in the live stock field for the next few years. The Federal Food Administration calls attention to the certain heavy demand for all live stock products during the war and the further fact that European countries will be in need of large numbers of live stock of all kinds immediately after the war. It is estimated that the decrease in the European herds since the beginning of the war amounts to 28,000,000 head in cattle, 54,000,000 head in sheep and 32,000,000 head in hogs. These figures represent the decline from the normal requirements of those countries, and the numbers that will need to be added as rapidly as possible after the war is over. This country is in best position to furnish the foundation stock, apparently insuring a heavy and continued demand for all of the good stock we can grow for several years to come.

* * *

ANTIQUATED STATE REPORTS

The printing of statistics and information which would be interesting and useful if published promptly becomes a burlesque when issued weeks and months after the information is gathered and after it can be of any real value. The system by which the state printing is done in Pennsylvania surely needs revising so as to make it worth while to spend the immense sum annually required to do the printing. It costs a great deal to send agents and samplers over the state to gather samples of feed, seed, fertilizers, etc. It costs to have the analyses made, and to have the printing done, and after it is all done it serves little purpose if the public does not receive the information until the next year, as is frequently the case.

Crop reports and seasonal conditions as sent in by reporters should be made public immediately to be of practical value. We have just received a crop report, dated July 1, giving reports collected in June which information is so antiquated that it is of no value to farmers. We are not censuring the Department of Agriculture for this condition, since the officials of that department have no authority over the state printer, but we do think somebody should straighten out the state printing business and bring it up to date, or else cut out the useless expense. At the same time this is done we would recommend eliminating altogether a great deal that is published in some of the annual reports. Economy and efficiency is the watchword in all private enterprises now, why not in the state printing?

* * *

MILK COSTS

The article on page 5 of this issue, giving report of the recent milk conference at Washington, contains news on Food Administration plans that is of interest to all milk producers. Securing representation on the dairy advisory board is another victory for dairy organizations. The various producers' associations that have sprung up in the last few years are becoming factors in dairy affairs beyond the limits of their own membership. They are securing nation-wide consideration for the dairy industry such as was never possible before the days of organization.

A committee of five has been appointed to collect figures and present production costs to a special Administration commission. This committee with Mr. B. R. Cooper, 110 West 40th St., New York City, as chairman, will welcome authentic figures on the cost of producing milk from every section. As an aid in determining such costs the U. S. Department of Agriculture has issued a statement deducted from its investigations in seven states. This statement is given as a basic formula giving the average cost with average cows, or cows producing about 5,902 pounds of milk per year. According to this statement the production of 100 pounds of milk, or 46½ quarts, requires 33.4 pounds of grain; 44.6 pounds of dry roughage or hay; 145.3 pounds of succulent roughage or silage; 8.7 cents' worth of pasture; 3.5 hours of man labor and ½ hour of horse labor. This is said to give from 75 to 80 percent of the total cost of production. The balance is covered in overhead charges, such as interest on investment, insurance, etc.

To make use of this in making a report on an individual herd of cows giving about 6,000 pounds of milk each, figure the cost of grain at your local prices, allowing 33.4 pounds of grain per 100 pounds of milk. In the same way figure the cost of roughage at local prices, allowing 44.6 pounds of dry roughage and 145.3 pounds of succulent roughage per hundred pounds of milk. Also figure the cost of labor at the price you have to pay, allowing 3½ hours of man labor and one-half hour horse labor per hundred pounds. To the total cost add 8.7 cents for pasture. To the cost thus obtained, add from 20 to 25 percent for incidental charges.

Make your calculations for your own herd and forward them to your dairy organization, or to your county agent. We would also like to have our readers test this out and report results to us for publication.

* * *

DAIRY FEEDING

Skill in dairy feeding will count for more this fall and winter than ever before. With all feeds high in price and the price of milk and cream paying a small profit only under the best of conditions, the man that makes money will have to do so thru careful feeding and management. Theoretically, the perfectly balanced ration is the most economical ration. It gives the animal the food elements needed in just the proportions needed to yield greatest returns without loss of energy or feed. Dairy specialists have been preaching balanced rations for years, but there are many farmers, and dairy farmers, that have not yet made the comparatively small amount of study to balance their feeds and get the resulting returns. But it is possible that even the scientific feeders will need to revise their methods this year. Unless there is a decided change in the relative prices of feeds and dairy products it is doubtful if even the best feeders will be able to pay a profit on the nitrogenous materials necessary to balance up the home-grown feeds. The Federal Food Administration promises to give some relief in the matter of feed prices. The future of milk prices is merely a guess at the best.

Should there be no material change which will affect the relation of cost of production and the price of the products there will need to be a shading down on the side of the high-priced concentrates. At least one leading dairyman of the state found it necessary last winter to cut down on his accustomed amount of grain. He had plenty of good silage, and he had a fair quality of hay. As grains soared in price his profit on the product decreased to the point where more grain was a questionable investment. He cut down on the grain, and finally stopped feeding it entirely. He did not produce as much milk as formerly, but with liberal feedings of hay and silage he kept up the milk flow fairly well until the cows were turned to pasture. He did not make as much milk as his neighbors were making but he felt that he was making the smaller amount at a larger profit than they got. This is not good practice under normal conditions, but these are not normal times, and some old practices will need to be changed.

The farmer with a good supply of alfalfa hay or good clover hay and plenty of silage will have a decided advantage. For him, as well as for the fellow that does not have the best of home-grown feeds, it will be well to buy his supplementary grains in as concentrated form as possible. Cottonseed and oil meal will likely provide the needed protein at the least cost, to which other grain feeds can be added to give variety and palatability. Much will depend upon the future trend of the feed market, but careful study and as careful management promise to pay good dividends this fall.

* * *

LABOR EXEMPTION

The average farm boy drawn for army service hesitates to ask for exemption for fear of being termed a slacker. Farmers as a class may hesitate to press their demands for exemption of needed and experienced farm help for fear of having their patriotism questioned. But this is a time for hard facts and clear reasoning. Wherever a serious effort is made to increase the acreage and yield of farm crops, the scarcity of farm labor comes up as the one important limiting factor. The grain states are now crying for extra men to help in the harvest. The corn belt farmers, by use of larger and greater numbers of labor-saving machines, were able to fit the ground and grow a larger acreage, but they are confronting a scarcity of labor to cut and husk the crop. In the dairy sections where there has been an alarming sale of dairy cattle, the scarcity of labor to do the work of the farm has been second only to the high prices of feeds as the factor influencing the closing out of the business. Farmers everywhere have made a supreme effort to meet the demands for more crops this year. They have worked long hours and have had every member of the family in the fields and barns helping in the work. They can do only so much, and they have about reached the limit of their ability to work this year. Without sufficient help they will not be able to add to their productive efforts as asked to do next year.

There is no question that one of the greatest needs of this country and our allies in this war is food products. Those products must be produced and moved to the warring zone if we are to win this war. There is justification for every demand made upon the farmers to do their utmost to meet the urgent needs. But if the farmers are to continue to do their part they must have their labor protected. The farm boys that are experienced in farm work are all needed in the work of production. They can be of greater service to the country and the cause for which the country is fighting if kept in farm work than in any other line of service. This is not a plea for special concession to farmers. To any one having any knowledge of agricultural matters, it can not be construed as a reflection on farmer patriotism. It is merely the statement of a very vital factor in continued farm production, which in turn is one of the most vital factors in the successful prosecution of the war.

The conscription law was intended to exempt farm labor. The principle of that law was to put every man into the class of service where he could be of greatest value to the country. But the first draft is not observing that provision. The exemption boards of this state are permitted to extend the time of call to operators of farms when in their judgment such men are needed on the farms. This is good, but if it is to be effective, the public and the authorities in charge must be advised of the real conditions in farm labor supply and the importance of an increased supply to continued production. Farmers must press their needs in this direction to have their conditions clearly understood.

They need not ask for class exemption. But they do need to press their claims in order that their requirements may be fully understood when men are selected for most needed service.

HARRISBURG NOTES

State and Marketing.—Efforts are being bent by the State Department of Agriculture to make a showing this year in the way of facilitating movement of crops of all kinds to markets and to purchase seed wheat and other things for distribution to farmers at costs so that plans to ask the next legislature for liberal appropriations for development can be worked out and figures used to back up the requests. In spite of the fact that the new bureau of markets has gotten caught in the political upheaval on Capitol Hill, the men connected with it have been going ahead on their plans to get the big peach crop sold in carload lots and are now engaged in endeavoring to find a market for the tremendous production of potatoes and other vegetables and to handle the apple crop. Railroad men have given their co-operation in furnishing cars and some good records are expected. It remains to be seen what effect the efforts now being made will have on the markets after the winter days come and whether the prices being paid now for the large lots will gee up with what may be asked next January. It is reported that there is a very general disposition among farmers and among people who have the means to store vegetables rather than to sell them now when everything is favorable and the temptation to get off hands before spoiling is great. From all accounts there are large amounts of butter and eggs going into cold storage this summer and the meat storage is also said to be heavy.

Will Demonstrate Grains.—Plans are being made by state authorities who have been urging more attention to the raising of rye in the northern tier of counties because of weather, soil and other conditions to have some demonstrations made. Facts regarding yields of wheat and corn and rye in the two lower banks of counties will be gathered and compared with figures from well-located farms in the central and northern tiers. It is also planned to choose some farms and in co-operation with the owners plant well-selected corn and rye, according to the locality where it is thought it will thrive best, and watch the results. The belief here is that some excellent results in regard to raising of rye in the northern counties can be obtained and that there will be good prices.

Police Sub-Stations Soon.—It is expected that within the next month or so additional sub-stations will be established in rural districts by the State Police department, unless men are drafted into the national army, protests against which are being made. The State Police force is filled up now for the first time since the new act was passed and the men are being trained at barracks for rural patrol work.

Can Get Extensions.—An interesting feature of the conference of the district draft appeal boards held here a few days ago was the general recognition given to the fact that wholesale taking of men from farms would turn the state upside down and work as much mischief as taking men from railroads and mines. The advice given to the men who will act on appeals was to use common sense and not to take men whose withdrawal would result in farms going to ruin and the loss of products for the community. One of the ways in which agriculture can be safeguarded, it was pointed out, was by exempting a man because he is needed to keep up the food supply while the other is to grant a man who passes the examination a certificate that he has been accepted but that owing to his need on the farm or to get in crops he is not to report at a mobilization camp until some future date, which may be further extended. However, in this present quota there will be no exemptions as a class.

Hints on Fertilizing.—One of the subjects to which the state farm advisors will give special attention this fall and on the institute lecture program will be fertilizing. The soil has been called upon to do much this year and authorities propose to make a campaign for fertilization. The importance of use of lime and fertilizers to improve soil and prepare it for a great yield next year will be preached at every cross roads. The state is endeavoring to arrange for purchase of fertilizer in carload lots in order to provide against a shortage and will sell at cost as it did seed potatoes and other things last year.

Dr. Rosenberger Engaged.—Dr. J. N. Rosenberger, the dairy expert of the state farm counsellor corps, has been placed on the advisors staff again and is making rounds under direction of the State Defense commission. Dr. Rosenberger will visit farms whose places are adapted for beef raising and urge that more be done.

First Food Inventory.—The state and federal agents have gone to work in the groceries of the state to find out how much food there is in stock and will extend their investigations to the warehouses and the cold storage plants. In the next ninety days it is hoped to have complete information on how much food Pennsylvania has off the farms. Whether it will result in stabilizing prices is what is interesting producer and consumer. Another interesting inquiry is that of the State Milk commission, which has been revived to probe the milk in western Pennsylvania. Farmers in that section have advanced prices because of increased cost of production, feed and the like and people in the cities have refused to pay. The result has been a milk shortage. The inquiry will begin on Tuesday at Pittsburgh.

New Apple Law.—The new apple law which will regulate packing and grading is now being put into effect and the Department of Agriculture is issuing information regarding its provisions. It takes effect September 1.

Medical Examination.—The state authorities now believe that they will be able to have practically all schools start off this fall with enough teachers and that there will be no interruption because of the draft. The medical examination work will also be started promptly. State health officials say that figures for last year show 485,337 pupils were examined last year, 76 percent being found to have something wrong with them. Less than 95 districts are without medical inspection. —Hamilton, Harrisburg, August 27.

NEW YORK NOTES

State Fair Barns Burned.—The caretaker of the stables for racing horses on state fair grounds was quite severely burned in a recent fire which consumed several stables and a large stock of lumber and supplies stored there for use in construction work now going on. Twenty some horses were saved but twelve perished in the flames, the loss being many thousands of dollars. The origin of the fire is not known.

Tussock Moth Appears.—The college of forestry of Syracuse University has been appealed to for aid in protecting the elm trees of Syracuse from the raids of the tussock moth. Other cities are experiencing the same trouble. The college advises the destruction of the egg clusters as of greatest help in combating the pest another year. It takes one man an average of four hours per tree to destroy the egg masses. Power spraying is the only resort where the eggs have hatched. Buffalo fought this pest three years before subduing it.

Jolt to Speed Traps.—Speed traps which have been operating in many New York State villages and cities have been given a set-back. State Senator John Knight, father of the general highway traffic law, declares that towns and cities, except those of the first class, have no right to pass or enforce ordinances restricting the speed of motor vehicles within their limits. This is supported by the counsel for the State Motor Federation. As the law now exists only New York City, Rochester and Buffalo would have a legal right so to restrict speed. Many small cities and towns have reaped a harvest of fines from motorists, one village collecting sixteen $10 fines last Sunday.

Buy Coal.—Dealers advise the buying of the winter's fuel at once, as a raise in price is expected Sept. 1. Labor is scarce at the mines and on the railroads, and transportation trouble may make a real scarcity later they say.

Freight Rates Increased.—Beginning September 17 freight rates will increase on horses, mules, sheep, calves and hogs carried over the D. L. & W. Railroad; also on beer in wood containers. Horse rates will be increased to 36 cents per cwt., an advance of 4½ cents; sheep, calves, and hogs advanced to 26 cents.

Approves Food Bill.—Jacob Gould Schurman, President of Cornell University, endorses the proposed food bill as a war measure. He says it protects the public, benefits consumers and discriminates against no class. He finds no cause for criticism and thinks it advantageous to farmers in that it compels common carriers to give preference transportation of farm products, feed, fertilizer and machinery. He approves the appointive power and says that our governor has been particularly successful in the high character and competency of men he has appointed to office.

Dye Firms Enthusiastic.—New York manufacturers of dye stuffs are certain of their future. They are able now to keep up with the demand for many new colors, and they think the day of high prices has passed. It only remains now to build up the industry to make it one of our great national resources.

A Surprise in Sugar Speculations.—Herbert C. Hoover has ordered the New York Coffee and Sugar Exchange to stop speculative tactics. All dealings in futures are banned. Within the past week sugar had reached an altitude never known before, or 9.15 cents a pound wholesale.

Potato Growers Still At Sea.—In spite of advice given at the big potato meeting at Syracuse, growers feel that much remains to be done to solve their problems. Four measures were recommended as follows: First, that farmers subscribe to a market news service; second, that a campaign for popularizing the potato as a food be undertaken; third, that better storage facilities be secured; fourth, that there be a co-operative organization among growers. The latter will organize by counties for better storage and marketing advantages.—F.

THE FERTILIZER SITUATION

The Soil Improvement Committee of the National Fertilizer Association makes the following statement regarding the character of the fertilizer which is now being offered for sale:

"The impression seems to prevail among Agricultural Experiment Station and Fertilizer Control Officials, also among County Agents, that the limitation put on shipments of acid phosphate by fertilizer manufacturers is due to a desire on their part to force farmers to use complete fertilizer or ammoniated super-phosphates. To correct this erroneous impression we make the following statement of facts:

"Under normal conditions the industry has ready on June 1, the usual close of the spring shipping season, approximately 35 percent of fall requirements of fertilizer. On June 1st of this year, owing to unusually heavy spring demand and manufacturing difficulties during the winter and spring, warehouses were absolutely bare of stocks, leaving only three and one-half months' time in which to manufacture, cure and ship the fertilizers required for this fall's wheat seeding and this under the most trying and difficult manufacturing and transportation conditions that have ever been known.

"At the beginning of the selling season for the coming wheat seeding, it appeared that the demand for acid phosphate might be so large that the amount the industry would be able to furnish would not cover the demand. It has therefore been necessary, as a matter of equity to all dealers, to put a limitation on the amount of acid phosphate sold to any one dealer. Indications at the present time show that the majority of dealers have taken less of acid phosphate than the amount offered.

"If the above limitation had not been made, the industry could not have furnished the other grades of fertilizer demanded by the consumer. Furthermore, it was not possible for manufacturers to increase their production of acid phosphate, as this requires more time to manufacture and cure than does the manufacture of mixed goods. Indications at this time are that there is a greater demand for the mixed fertilizers than the industry will be able to supply."

FARM FORESTRY

Farm Forestry is the title of a book recently written by Professor J. S. Ferguson of the department of forestry at The Pennsylvania State College, and published by John Wiley & Sons, of New York City. This book covers the subject of forestry as applied to the farm woodlot and is intended especially for textbook use in agricultural colleges and high schools.

Professor Ferguson's practical and teaching experience in different sections of the country has given him a wide knowledge of the varying forestry requirements in the United States. Before coming to State College three years ago, Professor Ferguson was professor of forestry in the University of Missouri. The book covers woodlot farming in the great plains and prairie regions as well as in more eastern regions.

INTERNATIONAL PREMIUM LISTS

The Preliminary Classification for the 1917 International Live Stock Exposition is now being mailed out. Substantial increases in prizes have been made in several departments, making this the greatest offering that has ever been made at this great show. Remember the dates: At Union Stock Yards, Chicago, Ill., Dec. 1-8. Entries close Nov. 1. For premium lists and full information address Sec. B. H. Heide, Union Stock Yards, Chicago.

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FARM MEETING CALENDAR

Northern Nut Growers' Association, Stamford, Conn., September 5-6.

Farmers' Field Day, N. J. Experiment Station, New Brunswick, N. J., September 6.

Solebury Farmers' Exhibit, Solebury, Pa., September 7-8.

New York State Fair, Syracuse, N. Y., September 10-15.

Inter-State Fair, Trenton, N. J., September 24-28.

Dairy Cattle Congress, Waterloo, Ia., October 1-7.

Eastern States Exposition, Springfield, Mass., October 12-20.

National Dairy Show, Columbus, O., October 18-27.

American Pomological Society, Boston, Mass., October 31-November 4.

International Live Stock Exposition, Chicago, Ill., December 1-8.

FAIRS NEXT WEEK

County	Town	Date
	Pennsylvania	
Dauphin	Middletown	Sept. 3- 7
Philadelphia	Byberry, Phila.	Sept. 3- 8
Bradford	Towanda	Sept. 4- 7
Bradford	Troy	Sept. 4- 7
Indiana	Indiana	Sept. 4- 7
Monroe	Stroudsburg	Sept. 4- 8
Susquehanna	Lawton	Sept. 5- 6
York	Stewartstown	Sept. 5- 8
Bucks	Solebury	Sept. 7- 8
	New York	
Columbia	Chatham	Sept. 3- 6
Cattaraugus	Little Valley	Sept. 3- 7
Rockland	Orangeburg	Sept. 3- 7
St. Lawrence	Ogdensburg	Sept. 3- 7
Monroe	Rochester	Sept. 3- 8
Tompkins	Dryden	Sept. 4- 6
Delaware	Walton	Sept. 4- 7
St. Lawrence	Potsdam	Sept. 4- 7
Schuyler	Watkins	Sept. 4- 7
Steuben	Troupsburg	Sept. 4- 7
Jefferson	Watertown	Sept. 4- 7
Essex	Westport	Sept. 4- 7
Yates	Penn Yan	Sept. 4- 7
Oneida	Rome	Sept. 5- 7
Dutchess	Poughkeepsie	Sept. 5- 7
Wayne	Newark	Sept. 6- 8
	New Jersey	
Camden	Gibbsboro	Aug. 31-Sept. 3
Monmouth	Red Bank	Sept. 3- 6
	Maryland	
Baltimore	Timonium	Sept. 4- 8

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AKRON SULKY CORN CUTTER

The old way requires considerable help and takes a long time. The AKRON SULKY CORN CUTTER saves time, money, and much labor; is absolutely safe; inexpensive; efficient; light draft; only one horse required; saves twine; cuts one or two rows at a time; adjustable for height of cut. We want you to know more about our Corn Cutter, but this space is too small for that, so we have published an illustrated booklet containing full description and testimonials which we will mail free to all interested readers of this paper. Send us a postal card request at once and you will receive this booklet by return mail. We will also tell you what dealer in your neighborhood handles our Corn Cutter, so you can go and see this complete machine. Write now. Right now.

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500 at 1000 rates.

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PIPE second hand. Large stock all sizes furnished with new threads & couplings. Prompt shipments.
J. F. Griffith, 416 Moyer St., Phila.

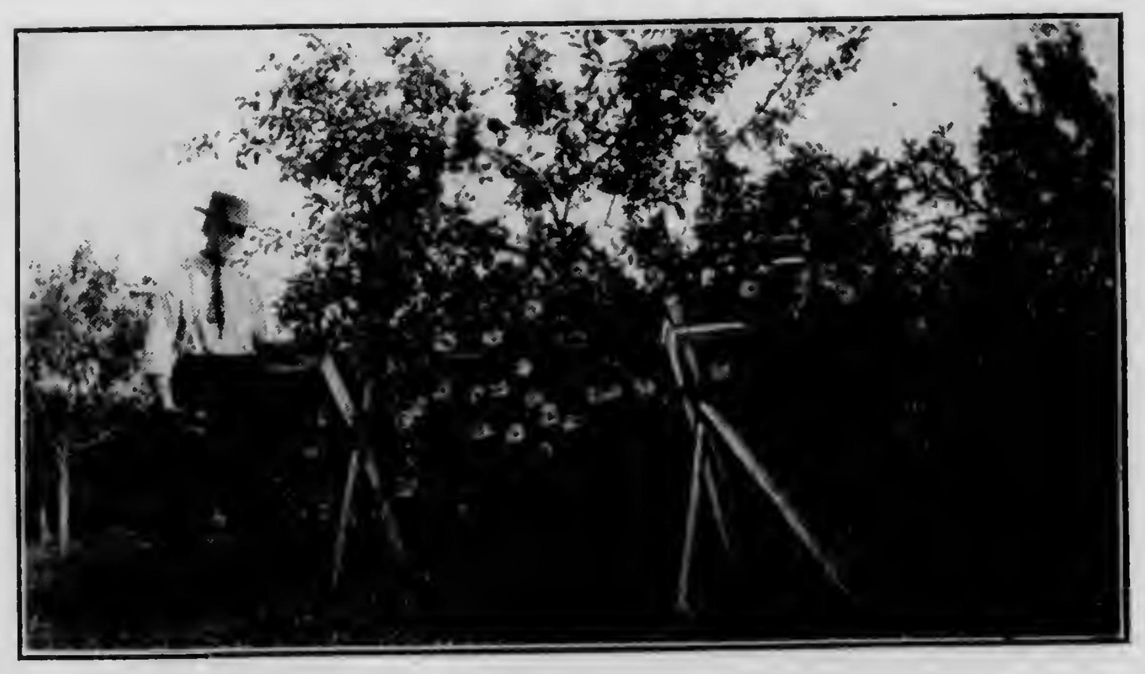
Horticulture

APPLE ORCHARDING IN BROOME COUNTY, N. Y.

Broome County is not noted for its apple crop. We don't expect to see apple buyers seeking our crop in the autumn, because the orchards can not produce all the good apples the county population eats. We have to fall back on boxed and barreled apples during a considerable part of the winter and spring to supply our city fruit stores. Nevertheless we do grow some unexcelled apples, and there is now considerable interest in apple growing as a crop for the local market. This show of interest has been manifested in the rejuvenation of a number of the neglected old orchards, and the better care of the few young orchards to be found.

SPRING WORK IN FINE OLD ORCHARD OF JOHN GREEN, BROOME CO., N. Y.

The topography of the county naturally divides our land into two classes, viz., hill and valley. Profitable orchards are found on both types of land. Orchards along the river valleys seem to enjoy an advantage in soil fertility, and of frost protection by reason of fogs. The orchards on the hill tops and favorable slopes adjacent have better air drainage and are later in blossom than those in the valley. We are never sure of a fruit crop owing to the inland climate, but with good care the apple orchard well located here will have some apples nearly every year, and occasionally be overloaded. One of these valley orchards is located near Vestal, and is the pride of two brothers, John and Charles Eldredge. For the last three years the young trees in this orchard have been bearing commercial crops of McIntosh Red, R. I. Greening, Hubbardston, Wagner, and Northern Spy apples. The old trees in this orchard have been pruned some, and all have been carefully sprayed for the last three years with very good results. The orchard stands in alluvial, well-drained soil on the south bank of the Susquehanna River. When the apples were at their best in color last autumn, I looked it over in company with other apple enthusiasts. If I should say that we found apples so large and perfect that the growers found it necessary to support the boughs on wooden horses, I might not get credited with truthfulness, but my camera corroborates the story as the illustration will testify. The variety supported there is the Twenty Ounce, and its slender branches and twigs were not equal to the weight of those magnificent fruits. The city market paid from $1.50 to $2 per bushel for the fancy fruits from this orchard.



TWENTY-OUNCE PIPPINS ON WOODEN HORSE IN ELDREDGE ORCHARD.

Earlier in the season I made a visit to one of the best of the old orchards up on the hilltops. It was planted over fifty years ago by the father of the present owner, Mr. John Green. This orchard was headed low and has been well cared for, except for spraying, until last year. The location has been favorable for good wood growth and for freedom from late frosts and cold winds, but in recent years the tent caterpillars became troublesome, and fruit knotty and less fair. Last year the owner's son resolved to take the orchard more firmly in hand, so he bought a spraying outfit and began operations with a thoro pruning. When I saw the orchard the brush lay thick on the ground under many of the trees. Many of them, like the one in the picture, were in full bloom. It was a welcome sight and seemed a prophecy of better crop results. Later in the season I went back to look again. Some of the trees had an abundance of apples, but many had few or none. I asked Mr. Green if the results were what he had expected. He replied that the crop was light to what it had often been, but that the quality of the apples was decidedly improved owing to the spraying done. It was really an off year in this orchard as it was in many others but it was not hard to see that the foliage was healthier and the condition of the trees improved.

The star performer in orchard renovation in this county is a "back-to-the-lander" who left the city three years ago to occupy one of the "poor knobs" almost on the state line. He set to work to save what was worth while of the old apple trees on his small farm. The second year he bought a barrel pump spraying outfit and persuaded two neighbors to let him prune and spray their orchards in addition to his own. The increased crop in the three orchards he says was about 500 bushels. The effect on the doubters in his neighborhood was gratifying. Last year he had eight orchards to take care of including his own, and it kept him busy during the spring season. Late spring frosts prevented any increase in crop results but I saw some of the trees under his care which bore a full crop of nice, fair apples. He has made good as an orchardist.—E. R. Minns, Broome Co., N. Y.

THE NATIONAL APPLE GROWERS

The second annual meeting of the National Apple Growers was held at Niagara Falls, August 13-14. Secretary H. C. Irish, of St. Louis, Mo., reported 76 charter members at $5 each. Other members pay $10 annual dues. At a meeting of the executive board and representatives from state horticultural societies a model was drafted for states wanting laws on grading and packing apples.

Mr. Schleussner of the U. S. Department of Agriculture discussed the food control bill. He said farmers are exempt from its provisions, but are not relieved of the work of marketing. It seeks to prevent the speculator cornering the market, help the consumer and the producer as well to get a reasonable amount for their labor. All dealers must take out government licenses to do business.

Under the new food survey law the government will have power to inspect cars on arrival when called upon and report conditions, and it may result in cars not being turned down so readily. It will require government standards of packages and packing. Cold storages will also report monthly what they have on hand and what has been moved. The new law will not interfere with dealers buying apples to store in legitimate trade. It seems to be the aim of all in the government service to restrict dealings to reasonable profits. Fruits are classed as food—not luxuries.

In the discussion Senator Lupton of Virginia hoped the government would continue the inspection of cars after the war is over and also inspect the goods before shipment and continue the practice of making dealers take out government licenses to do business.

W. S. Perrine of Illinois talked on "Packing the Best Grade of Apples" in more than one size. Some varieties and some markets some years may take them best all together; but generally the larger sizes may be packed by themselves and the medium sizes by themselves and all called number one grade, but of different sizes, to be marked on the barrels. It is wrong to call nice small sizes "No. 2".

Senator Lupton of Virginia said 11 states now have laws on packing, grades and marks, and the Pacific Northwest has six more states that work thru their associations and accomplish as much as tho they had laws. We need a compulsory national law now to take the place of the optional Sulzer law. The face should fairly represent the contents of the package. The pure food law requires the weight or count of the contents of the packages of fruit

marked on each package and there is also a law defining a standard barrel. It seems now that if those using the standard size barrel will stamp "U. S. Standard Barrel" on each one, it will fill the requirements.

Mrs. H. M. Dunlap, of Illinois, read the best paper of all on the "Importance of the Apples as a Food."

Pres. Dunlap told how the National Apple Growers could best serve its members, along the line of crop statistics, better and uniform packs, selling direct rather than ship on consignment and dealing with reputable houses.

Pres. Batjer, of Arkansas, said the refrigerator car for bulk stock is often the best and is the cheapest package where the market will take it, or the produce people have not had city ordinances passed to keep growers from selling from the car door. The barrel, box and basket are the main containers for the various varieties and grades to suit the trade.

F. H. Simpson, of Illinois, advised ordering cars as long as possible in advance of the time needed so as to get them when wanted for loading; then load promptly to the full carrying capacity of the car, deliver promptly to railroad for shipment and have them rushed thru and unloaded and released at destination. The government is now using over 100,000 cars in transporting war supplies and may be using 600,000 by apple harvest. Use motor trucks for short hauls. Don't order more cars than needed, and use ventilated box cars instead of refrigerators if they will answer the purpose.

Andrew Cohill, of Maryland, said they sell to one dealer only in each market and deal with people of known reliability. Sell when they will bring fair price, or hold if they do not pay a profit until later. Such varieties as Jonathan and Grimes' should be put on the market when picked if they will pay a profit, and get them out of the way.

By resolution the association requested the assistance of the International Apple Shippers' Association in trying to get the embargo lifted on the exportation of apples to Europe; urged the need of a U. S. law on packing, grading and marking of apples; requested the bureau of crop estimates to amend their methods and reports so as to eliminate all the apples not put on the market as fruits; urged licensing produce dealers after the war closes, continuing the inspection of cars and when possible the inspection to take place at point of shipment.

W. P. Massey, of Virginia, said that by using a grader the work may be doubled with the same force. Each picker using two baskets can do more work. By combining pickers from several small farms and going from orchard to orchard more fruit can be harvested.

Senator Lupton thinks the community packing-house for small growers will be a good thing, save labor, improve pack, enable them to sell to better advantage and the poor grades can be used or shipped in carlots to by-products factories whereas each grower could not so use them.

The statistics of the organization are available to the members only. The crop is very short, much shorter than last year.

The new officers elected are: H. M. Dunlap, Savoy, Ill., president; S. L. Lupton, Winchester, Va., vice pres.; Mrs. Batjer, Ark., treasurer. Executive committee: S. J. T. Bush, N. Y.; U. T. Cox, Ohio; E. P. Cohill, Md.; R. A. Simpson, Ind. The official board elected W. P. Massey, Wichester, Va., secretary.—U. T. Cox.

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Their durability, dependability and ability are responsible for their use by the largest manufacturers of motor cars in the world.

The vital importance of the tiny jet of flame, which issues from the plug, cannot be over-emphasized.

Because the spark plug *is* so important, avoid the risk of substitutes by making sure they say Champion *on the porcelain* as well as on the box. You can get Champion Spark Plugs everywhere.

Champion Spark Plug Company, Toledo, Ohio.

Champion X
Price 75c

There is a Champion Spark Plug designed for every type of stationary engine, tractor, motorcycle and automobile.

Feed the Fighters! Win the War!
Harvest the Crops! Save the Yields!

On the battlefields of France and Flanders the United States boys and the Canadian boys are fighting side by side to win for the World the freedom that Prussianism would destroy.

While doing this they must be fed and every ounce of muscle that can be requisitioned must go into use to save this year's crop. A short harvest period requires the combined forces of the two countries in team work, such as the soldier boys in France and Flanders are demonstrating.

THE COMBINED FIGHTERS IN FRANCE AND FLANDERS AND THE COMBINED HARVESTERS IN AMERICA WILL BRING THE ALLIED VICTORY NEARER

A reciprocal arrangement for the use of farm workers has been perfected between the Department of the Interior of Canada and the Departments of Labor and Agriculture of the United States, under which it is proposed to permit the harvesters that are now engaged in the wheat fields of Oklahoma, Kansas, Iowa, North Dakota, South Dakota, Nebraska, Minnesota, and Wisconsin to move over into Canada, with the privilege of later returning to the United States, when the crops in the United States have been conserved, and help to save the enormous crops in Canada which by that time will be ready for harvesting.

Help Your Canadian Neighbors When Your Own Crop is Harvested

Canada wants 40,000 Harvest Hands to take care of its
13 Million Acre Wheat Field

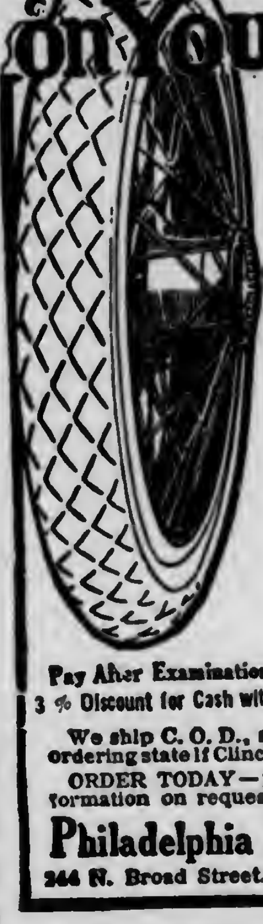
One cent a mile railway fare from the International Boundary line to destination and the same rate returning to the International Boundary. High wages, good board, comfortable lodgings.

An Identification Card issued at the boundary by a Canadian Immigration Officer will guarantee no trouble in returning to United States.

AS SOON AS YOUR OWN HARVEST IS SAVED, move northward and assist your Canadian neighbor in harvesting his; in this way do your bit in helping "Win the War."

For particulars as to routes, identification cards and place where employment may be had, apply to Superintendent of Immigration, Ottawa, Canada, or to

F. A. HARRISON, 210 N. 3rd Street, Harrisburg, Pa.
Canadian Government Agent



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Size	Plain	N-Skid	Guaranteed Tubes
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30x3	7.70	8.60	2.30
32x3	9.25	9.95	2.75
30x3½	9.95	11.10	2.85
31x3½	10.55	11.60	2.90
32x3½	11.50	12.95	3.00
34x3½	12.15	13.35	3.55
31x4	14.75	16.60	3.70
32x4	15.05	16.85	3.80
33x4	15.75	17.20	3.90
34x4	16.10	17.55	4.00
35x4	17.00	18.60	4.50
36x4	17.20	18.65	4.30
34x4½	21.65	23.65	4.90
35x4½	22.70	24.70	5.00
36x4½	23.05	25.15	5.15
37x4½	23.95	26.10	5.35
35x5	24.90	27.25	6.05
36x5	27.10	29.60	6.65
37x5	26.40	28.85	6.25

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The PERFECT CORN HARVESTER

Sold Direct $19.50 JUST the THING for SHOCK or SILO CUTTING

Works in any kind of soil. Cuts stalks—doesn't pull like other cutters. Absolutely no danger

Cuts Four to Seven Acres a Day

with one man and one horse. Here is what one farmer says: Oct. 18, 1916. Gentlemen: Harvester worked very successfully. The corn was from 15 to 18 ft. high and we cut about 30 acres for silage without delay. Yours truly, Brookwood Farms, New York, N.Y., M. H. Roberts, Supt.

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We have purchased from the Overland Motor Co., of Philadelphia, former Overland Agents, all their 1917 Demonstrating and 1917 and 1916 Used Overland Cars. We bought these cars at a terrifically low price and shall sell them at a

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For an Overland Car. They are all like new. Also 1000 other cars, including every known make, in 1917-1916 models, $200 up. Write today for our Fall

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WORLD'S LARGEST AUTO DEALERS
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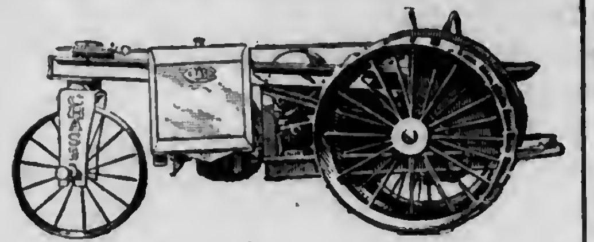

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We can ship you one of these CHASE 2-3 plow all purpose tractors immediately. When you drive this tractor into your door yard you can figure that 9 first class horses and 3 husky hired men, with their sleeves rolled up ready for work, have come to help you.

Does that interest you? If so, write us.

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It's Natural for a Hog to Wallow

Here's a good thing to do: Provide a wallow close to the feeding grounds to which add Dr. Hess Dip and Disinfectant. As the hogs pass back and forth from the wallow to the feed trough, the **DIP** will kill the lice and cleanse the skin, while the **DRIP** will destroy the disease germs and the worms that pollute the ground. That will mean a clean, healthy skin, freedom from lice, a safeguard against disease and larger, better porkers.

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Free!

A 50-gallon barrel of Scalecide free to any any one who will suggest a *fairer* guarantee than that given below.

"SCALECIDE"

As proof of our confidence and to strengthen yours, we will make the following proposition to any fruit grower of average honesty and veracity:
Divide your orchard in half, no matter how large or small. Spray one-half with "SCALECIDE", and the other with Lime-Sulfur for three years, everything else being equal. If at the end of that time, three disinterested fruit growers say that the part sprayed with "SCALECIDE" is not in every way better than that sprayed with Lime-Sulfur, we will return you the money you paid us for the "SCALECIDE".
Send for new free booklet, "Profits in Fall Spraying".

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To obtain the highest price for your Hay and Straw consign to us. We specialize in Hay and Straw. Write us for information about our market. *References:* 4th Street National Bank and Robert Morris Trust Company.

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Live Stock

LET HOGS HARVEST THE CORN

Practical feeders and experiment stations have shown that hogs when properly managed will gain as rapidly and as economically when allowed to harvest the corn crop as when the crop is harvested and fed in the usual manner. As a matter of fact, even more pork may be produced from an acre when the hogs do their own harvesting. This statement is proved by tests conducted by various experiment stations. Henry and Morrison in "Feeds and Feeding" show that 68 pigs which were allowed to harvest their own corn gained 1.4 pounds daily during 53 days and required 488 pounds of concentrates for 100 pounds gain. Another lot of 31 pigs which were fed ear corn in a yard gained 1.1 pounds during 57 days and required 546 pounds of concentrates for 100 pounds gain.

L. A. Weaver of the Missouri College of Agriculture points out that summer pasture combined with hogging down corn in the fall is a profitable method of fattening hogs since less high-priced grain is necessary when pork is produced in this manner. The Missouri Station has shown that 20 to 40 percent less grain is required to produce a given amount of pork when good pasture crops are supplied thruout the grazing season. To effect such a saving, however, it is necessary to limit the amount of grain which is fed to hogs on pasture so that at the end of the grazing season they will not be fat but will be grown, and in excellent condition to hog down the corn necessary to finish them for market.

This system of hog management not only reduces the amount of grain required to finish the hog for market but saves labor, removes less fertility from the farm, keeps the swine herd more healthy, and offers other advantages for cheaping the cost of production.

The number of acres of corn necessary to finish a given number of hogs will vary with the kind of hogs and yield of the crop. It has been estimated that 20 pigs weighing 125 pounds will harvest a yield of 40 to 70 bushels per acre in from 15 to 26 days respectively; 40 pigs in 8 to 14 days, 60 pigs in 5 to 9 days, and 80 pigs in 4 to 7 days.

Most feeders prefer well-grown, thin shoats which weigh from 125 to 150 pounds—shoats that have been grown thru the summer on forage and have not been previously fed a heavy grain ration. Such hogs will eat a large amount of feed and will gain rapidly. Heavier hogs such as brood sows and fattening hogs almost finished are likely to break down too much corn and not clean it up so well as they go, thereby increasing the waste.

Some nitrogenous supplement must be supplied to make the hogs gain rapidly and economically. At least part of this supplement may be supplied in the form of roughage, such as alfalfa, clover pasture or soybeans. If provision has not been made for clover, alfalfa or rape pasture in a field adjoining corn, or if soybeans have not been planted in the corn or in an adjacent field, then it is absolutely essential, with feeds at the present prices, to supply some nitrogenous supplement such as tankage, linseed oil meal or middlings. The particular supplement used would depend upon the relative prices of this class of feeding stuffs. Ordinarily tankage is a cheap supplement. Eastern farmers have feared waste in hogging corn, but it may solve the labor problem for some.

USE CHEAPER FEEDS—SAVE GRAIN

"It is time to quit shoveling grain indiscriminately into live stock. Good live-stock farming demands it and the need of more food requires it. Feeding grain to meat animals with a lavish hand is responsible for one of the greatest feed losses on the farms of this country. Hay, fodder, silage and pasture are the cheapest feeds and will carry animals along with a minimum of grain. Keep the frames of the young animals developing on these cheap feeds. Withhold the full grain ration until the finishing period arrives. Breeding cattle may be wintered on the cheaper feeds."

This advice of Animal-Husbandry specialists of the U. S. Department of Agriculture to stock feeders is not emergency advice only; it is the sound logic of meat production, which American farmers must learn if they are to compete successfully with European producers in the coming generations. These are good days to learn the lesson of feed conservation. In Farmers' Bulletin 873, "The Utilization of Farm Wastes in Feeding Live Stock," specialists tell how to use these cheaper feeds in rations for cattle, sheep and horses.

A tremendous waste of feeding stuffs occurs annually on American farms, according to figures presented in this publication. In 1914 about 120 million tons of straw were produced in the United States. Of this amount 55 percent was fed to live stock, 15 percent was burned, 8 percent sold, and 22 percent plowed under or otherwise disposed of. Corn stover produced in the United States is estimated at 245,253,000 tons, of which 81½ percent is fed to cattle and other stock. No figures were obtained to show the percentage that is wasted in the feeding, but at least 35 percent of the total amount produced represents actual waste.

This waste of corn stover can be checked, it is said, thru use of better methods of feeding fodder and stover and it can be almost entirely stopped thru the use of silos. Straw and stover are best utilized for feed when accompanied by concentrates, such as cottonseed meal. If the large amounts of cotton-seed meal ordinarily used for fertilizer in the South were, instead, fed to live stock and the manure used for fertilizer, the value of the meal would be increased from 50 to 85 percent.

Practical experience as well as experimental work has taught that straw and stover can be used very economically in the rations of almost all kinds of live stock. They can be used in the fattening rations of all farm animals except hogs and should compose the larger part of all wintering or keeping rations of cattle, sheep and horses. Breeding herds of beef cattle or dry dairy cows can be successfully kept on rations composed largely of these roughages. Flocks of breeding ewes do well on such feeds when some grain is added. Horses doing very light work or no work at all need little grain if given a plentiful allowance of clean, light straw or stover. Under certain conditions, of course, grain should be added to the ration, but now it should be conserved as largely as possible for human consumption. The bulletin mentioned suggests various rations which are made up principally of these waste feeds.

With the possible exception of potatoes, there is probably no crop that gives a return for manure or fertilizer equal to that realized from the hay crop.

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and avoid congestion and delay in freight movements later. **The wise man will buy now.** We can fill your order promptly for

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Made from the best meat scraps, carefully sterilized under pressure.

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HOLSTEIN HERD
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Poultry

LAYING TEST OF BREEDS

Leghorns produce eggs cheaper than hens of the general purpose breeds—Plymouth Rocks, Wyandottes, Rhode Island Reds, and Orpingtons. This fact, which confirms the belief and experience of commercial poultry farmers, was one of the results obtained in a rather extensive feeding test recently reported by poultrymen of the United States Department of Agriculture. Because they lay as many or more eggs, eat only about 55 pounds of feed per head as compared with 70 to 85 pounds eaten by the general-purpose breeds, and because their egg yield very materially exceeds that of general-purpose breeds during their second and third laying years, Leghorns, the specialists say, undoubtedly are more profitable to keep for the production of eggs only.

In this test the feed cost of a dozen eggs for one of the Leghorn pens was 7.34 cents in 1913 while the average cost of all the pens of the general-purpose breeds was 10.6 cents. In 1914 the feed cost of a dozen eggs for the same pen of Leghorns was 8.7 cents as against an average cost of 15.1 cents for the second laying year of the general-purpose pens. During their third laying year the cost of a dozen eggs was 8.8 cents compared with 18.6 cents for the general-purpose fowls. The total value of eggs per hen over feed cost in the Leghorn pen for three years was $6.84 against $4.30 for the general-purpose hens. The highest egg production obtained in any of the feeding experiments up to 1915 was by a pen of Leghorns which laid 157.6 eggs per hen at a feed cost of 6.7 cents a dozen.

The Leghorns produce smaller eggs than the general-purpose breeds. The average weight of the eggs of a pen of Leghorns during the first laying year was 1.42 pounds per dozen as against 1.53 to 1.58 pounds for the other pens. However, Leghorns laying eggs weighing 1.5 pounds per dozen or even more, the specialists say, have been selected and bred by many poultrymen. An examination in May, 1915, of 500 eggs from 3 Leghorn pens showed that 31 percent weighed more than 2 ounces apiece, or 1.50 pounds to the dozen.

The value per dozen of the eggs produced by the Leghorns was from 1 to 3 cents less each year than the eggs of general-purpose hens. This difference is due to the fact that the general-purpose breeds are better winter layers than the Leghorns, while the latter give a higher production in the spring and summer. Very few Leghorns become broody, which probably materially affects their egg yield as compared with the general-purpose breeds. Better fertility in the eggs, especially with stock confined to the yards, is more often secured with Leghorns than with heavier breeds.

DOES THE FARM HEN PAY?

A farm hen which will earn $3.47 above her feed cost is a valuable asset. M. P. Hollar, of Ray County, had 133 hens which averaged that amount for a year, according to figures supplied by him to the University of Missouri College of Agriculture. Mr. Hollar started his test April 1, 1916 and produced during the twelve succeeding months $468.84 worth of eggs and $235.60 worth of birds. His feed cost for the year was $242.05 which left a net profit of $462.39. His hens average 141 eggs during the year.

Some farmers contend that poultry is profitable only when it lives on waste material and that feeding will result in loss. The College of Agriculture has been co-operating with a few farmers in the state to determine what returns may be expected from a well-managed flock on the average farm. Records on all the flocks have not been compiled but reports which have been received indicate that proper feeding methods will return a worth-while profit.

Two other records are not so good as that made by Mr. Hollar but they show that the birds returned a good profit above the feed cost. Mrs. Nimrod Nance, of Daviess County, had 240 hens and produced $295.02 worth of eggs and $285.63 worth of birds. The feed cost for the year was $246.08 which left a net profit of $334.57. Her hens averaged 95 eggs each and she realized a profit of $1.339 on each bird.

Mrs. H. R. Sphat, also of Daviess County, produced $197.46 worth of eggs and $258.66 worth of poultry from her flock of 160 hens. She spent $217.59 for feed. This gave her a profit of $238.53 over feed cost which gives an average profit of $1.49 per hen. The hens averaged 88 eggs each.

These three records are the only ones that are complete for a year but a number of other co-operators have started keeping a profit and cost account of their poultry and all are obtaining good returns on the money invested.

LOOK FOR SICK HENS

During the fall and winter months, the poultryman should be constantly on the lookout for colds in the flock. Colds are the fore-runner of catarrh and roup, and if the disease is never permitted to go beyond the cold stage, the poultryman will not likely be troubled with the serious diseases. It is now conceded that colds are contagious, and the hen that sneezes, sniffles or has a discharge from the nostrils should be kept away from the rest of the flock.

Before locking the houses at night I look over the hens on the perches. If I notice that one is breathing hard or displays other signs of having a cold, she is removed. When a large flock is kept it is difficult to notice minor ailments during the day, when the hens are active and make a constant noise. At night, however, the houses are quiet and any unusual noise can be traced to its source immediately.
—T. Z. Richey.

DON'T FORCE THE MOLT

Laying hens should be allowed to molt naturally. The common idea that if hens are compelled to molt early they will quickly feather out and commence laying early in the fall is erroneous. An early molt is not a sign of early fall production. Usually the late molting hen is the heavier producer. In fact, a lack of feather growth is suggested by G. W. Hervey, of the Missouri College of Agriculture, as one of the points to consider when selecting hens for winter laying.

Very often show birds are forced into a summer molt by a restriction of feed. This is done so that the birds may be in full feather once more for the early show season. This should never be practiced with utility stock. It will cause production to stop and weaken the hens at a time of the year when full strength is needed. It is unwise to change the general character of the feed. The addition of some oil-carrying ingredient, however, such as sunflower seed, will aid in the development of new feathers.

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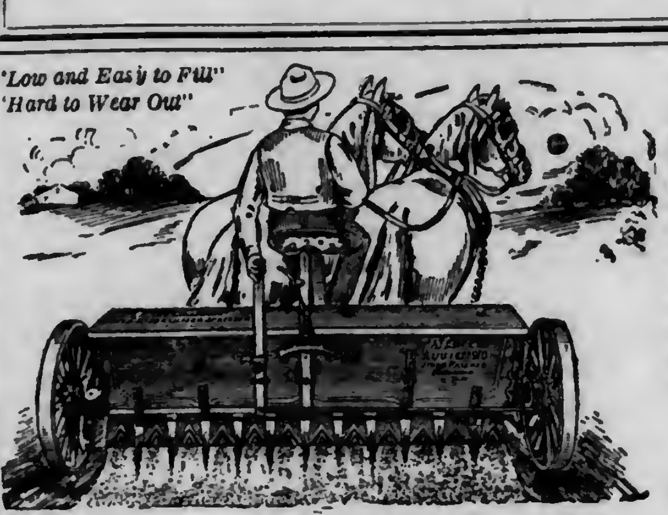

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Can Wheat Crops be Increased

Middle Western Growers Discuss Limiting Factors

On call of Secretary David F. Houston, there was a conference at the Claypool Hotel, Indianapolis, Ind., August 20, to consider in general the wheat situation and to arrive at some methods of increasing the crop next year. There were present President Raymond A. Pearson, of the Iowa Agricultural College (recently nominated assistant secretary of the U. S. Department of Agriculture) who presided; a number of other representatives of the U. S. D. A., agricultural college and experiment station men, agricultural extension leaders, farmers, state agricultural leaders and editors of representative farm papers.

Chairman Pearson called attention to the fact that while our exports of wheat were about 100 million bushels annually before the war, they were 330 million bushels the first year of the war, 240 million the second year, 175 million the year just closed and would probably drop to 75 million during the present fiscal year, unless strict economy is practiced in this country. Before the war France produced over 300 million bushels annually, while in the year just closed the product was but 161 million bushels. He said that while congress evidently intended to guarantee $2 for wheat the food act does not specifically provide for enforcement of the price, but leaves the matter of differential between spring and winter wheat, for moisture, etc., to be determined later. In fact on the basis provided No. 2 red winter might range from $1.80 to $2.40.

Dr. W. A. Taylor, of the U. S. D. A., said that the conditions had brought the wheat acreage about up to the advisable maximum. More acreage might mean a waste of much good seed. The bulk of the wheat must come from the Corn Belt, the plains and the Pacific coast states. He advised not to be stampeded to wheat and away from rye, which is also a bread grain.

In Indiana

Mr. G. I. Christy, leader of extension work in Indiana, said this year's crop had been decreased by fly and winter killing and that more land must be turned back into crop rotations. In his judgment labor shortage would make the increased demand impossible to meet and he urged exemption of farmers from military service in a large way. The average farmer has been handicapped by high costs of fertilizer and seed wheat as well as transportation difficulties. He said that some milling companies are furnishing seed wheat to farmers on a share basis.

Mr. Frost, of Indiana, said that farmers had been led to expect exemption for farm laborers who were essential to maintain production and urged an organized effort to secure it. During the discussion it developed that draft boards refused, in some cases, to meet committees asking exemption in general, but that they would accept specified lists of names with exemption claims for careful consideration.

In Kentucky

State Leader Fred Mutchler, of Kentucky, said that his state expected to meet the 13 percent increase demanded. Said that on account of limestone being classed as road material instead of fertilizer, it was hard to get prompt railway service.

In Ohio

Extension Leader Clark S. Wheeler, of Ohio, reported that his state felt normal but doubted the ability of Ohio farmers to meet the demand for 60 percent increase in acreage. In fact he thought this demand based on a misunderstanding. In his judgment increased yield and good price this year, together with a good price promised next year, would help much to increase production. He thought the guaranteed price a most important factor. Seed seems plentiful but fertilizers have had to be placed in a preferred class for prompt shipment.

Director Chas. E. Thorne said that Ohio had probably exceeded three million acres in the past and could do so again. Assessors' returns show 2,900,000 acres one year — the actual acreage probably being more. The tremendous crop just harvested is probably the record yield and with the good price will encourage more planting. There is no reason to fear serious insect injury. Early seeding will overcome the joint-worm. The serious problems are labor—which must be maintained—and fertilizer. He said that the increased cost of acid phosphate would cause an increase in favor of raw phosphate rock, but that it should be used in liberal quantities.

In Michigan

Joseph Cox, of Michigan, said his state was in position to increase the crop greatly. The present acreage is about two-fifths of what was raised a quarter of a century ago. The great problem in his state is to clear up the mixed varieties and establish varieties of tested merits.

In Illinois

Prof. G. N. Coffey, of Illinois, reported an acute labor situation. In the leading corn sections increased wheat acreage will help to solve it. A large percentage of winter wheat was killed last spring so corn acreage was larger than usual. He urged spreading surplus straw back to the land. This season such treatment showed better returns than fertilizer.

Eugene Davenport, Dean of the Illinois College of Agriculture, reported that wheat would largely be increased as a labor saver. A minimum number of men and women can harvest wheat, but not corn. Said that all farm machinery would probably cost twice as much as formerly, and labor would be no lower. It would not be possible for farmers to work harder than they had this year. Claimed that farm boys and men would not demand exemption from army service unless the country people were educated to the need of their doing so.

Mr. B. F. Harris, "banker-farmer", said that the die was cast for Illinois, but that wheat might be seeded in standing corn with a saving of time, and for better results with clover next spring.

Agricultural Commissioner Adkins, of Illinois, said that supply and demand would take care of the price better than will the guaranteed minimum. Said the matter of draft exemption was the most important phase of the situation.

In Wisconsin

Extension Leader K. L. Hatch, of Wisconsin, reported an increase of 33 percent, due to the campaign for spring wheat, and expected a similar response for winter wheat. New lands will largely be utilized and there will be much replacement. Said that Wisconsin bankers had bought up entire stocks of pedigreed seed wheat at $1 above the market price, to be sown this fall. He called attention to the demand of the government for 10 million acres more of cereals, with a much smaller labor supply.

The very important matter of guaranteed price for next season's crop was scarcely touched upon and nothing definite was announced concerning it. Reports from the several states indicated that the great limiting factor of next season's wheat crop was labor shortage and the drafting of farmers into military service.—C.

HIGH CORN PRICES

That the unprecedentedly high price of corn is not due to abnormal holding of supplies by farmers is the belief of the U. S. Department of Agriculture, based on reports just received from crop correspondents in Illinois, Ohio, Kentucky, Iowa and Missouri. These states are typical of the great surplus white-corn producing region and their conditions indicate conditions thruout the corn-producing area. The investigations disclosed that farmers are holding only enough corn to insure their seed supply for next spring and to protect their live stock feeding interests until the production of a sufficient supply from the present crop is assured; and that the stocks in their hands are much lower than normally.

Among the conditions making for high corn prices, according to the Department, are shortage of the 1916 crop and the carry-over from 1915, increased exports, increase in the general level of prices, and the increased numbers of live stock on farms. The 1916 corn crop, it is pointed out, was 400,000,000 bushels short of the 1915 crop, and stocks on farms on March 1, 1917 were 300,000,000 bushels short of the stock on farms on the same date the preceding year. The exports of corn in the year ended June 30, 1917 were approximately 70 percent greater than in the preceding year and about seven times greater than in the year ending June 30, 1914, the year preceding the war. The general level of prices, it is pointed out, has increased greatly during the last year, especially as regards foodstuffs. Live stock in the United States has increased about three million head in the past three years, statistics of the department show, and so has helped to increase the demand for corn for feeding purposes.

With short corn stocks the highest corn prices are naturally being reached just before the maturity of the new crop, when the shortage is most marked. Reports point to the harvesting of a large crop of corn this year provided climatic conditions are favorable during the remainder of the season.

BILLION BUSHELS OF WHEAT NEXT YEAR

The production of over one billion bushels of wheat and over 83 million bushels of rye, thru the planting of 47,337,000 acres to winter wheat and of 5,131,000 acres to rye this fall, is the immediate war agricultural program for the Nation announced by David F. Houston, Secretary of Agriculture. This record winter wheat acreage, an increase of 18 percent over last year, would yield 672,000,000 bushels if the average yield for the past ten years is equaled, or under a repetition of the favorable conditions of 1914 would give 880,000,000 busehls. In either case with a spring wheat crop next year equal to that of 1915, the Nation will have more than one billion bushels of wheat for domestic use and export.

This vastly increased production of wheat, needed in any case, will be absolutely essential to prevent a serious shortage of breadstuffs next summer should the growing corn, now behind the season, be much damaged by early frosts.

THE HONEY CROP

The clover honey crop is light. Markets are now almost bare, the demand is good and prices are keeping up. Develop your home market to secure the best retail prices, at the least expense to yourself. Local demand will take all the white honey in this state, if the beekeepers act promptly. All beekeepers interested in wholesale honey markets should send their names at once to the Bureau of Markets, U. S. Department of Agriculture, Washington, D. C., to receive the semi-monthly Market News Bulletin, giving telegraphic reports of the markets.—E. F. Phillips, U. S. Apiculturist.

A heavy growth plowed under every few years adds humus and gives new life to the soil that is visible for several years.

Cecil County Farmers Meet

Timely Subjects Considered by Large Gatherings of Farmers

The good farmers of Cecil County, Md., have a reputation for doing things. That reputation did not suffer from the method of holding the fourth annual meeting of the allied farming interests of that county at Port Deposit, August 18. The meeting was held at the beautiful Tome Institute and nearly 1,000 farmers gathered to listen to a program that would have done justice to a state meeting. American farmers of every state and every section are confronted with many and varied problems at present, and the program at this meeting was well calculated to bring out all of these problems, reflecting the good judgment of the local program committee.

Agriculture in the School System

Dr. A. F. Woods, the newly elected president of the Maryland State College of Agriculture, made a strong appeal for co-operation and co-ordination in the public school system. He prefaced his talk with a most interesting and pointed discussion of the value of science in the establishment of truth. He gave the example of the German scientist who spent more than a year in an effort to grow the common green pond scum under artificial conditions, and the resulting discovery that a very small amount of copper in water is an effective preventative of the growth of the scum organism. He showed how this apparently unimportant discovery paved the way for later cleaning up the watercress fields of the country and saving an industry that is worth millions of dollars. Next it was used in cleaning up water supply reservoirs where water was found to have bad taste and odors due to vegetable growth. Again the same simple discovery was used in cleaning up water infested with colon bacilli, the germs of typhoid, Asiatic cholera, yellow fever, etc. He followed the development of this single scientific truth thru its various fields of usefulness. Schools represent the conservation of truths discovered, he declared, and

pass those truths on from one generation to another. With this ideal the purpose and aim of schools are changing. The purpose of education was at one time summed up in the indefinite term culture. Now we know that the highest culture is merely truth applied. Culture is efficiency, but the highest type of culture is that kind of efficiency that looks to service of the human race rather than to individual gain. The agricultural college reaches its highest efficiency when it strives to serve, and in such service is ready to co-operate with all of the educational agencies of the state or country. The aim of the college, as of the entire school system, should be that kind of service, free from selfish competition and full of unselfish co-operation.

Farm Women in the War

Mrs. Henrietta Calvin, specialist in Home Economics in the U. S. Department of Agriculture, discussed the place of the farm women in the war. She declared that the farm women have responded most nobly in food preservation. Now they must do as well in food conservation. The normal surplus of this country's crops will supply only about 60 percent of the material that we will be called upon to send to our allies. We must make up the remainder by cutting down the consumption here. That does not mean that we must eat less, but it does mean that we must waste less and save more. And we must send the things that our allies need and can use. It has been suggested that we can eat our wheat bread and send our surplus corn products to our allies. Mrs. Calvin reminded her hearers that our allies are fighting our battles, and they are worn and needy, and this is no time to force upon them substitute foods—the things that we do not want ourselves. She advised eating all of the green bulky foods that we can, but save on bread and meats. The problem is one of saving wheat, meat and fats. Save woolens and wear cottons as much as possible. Protect the women that will need to go into harder labor. Waste nothing, save everything that can be used at home or abroad, and do not worry.

Conservation of Farm Labor

Wm. T. Creasy, whom all Pennsylvanians are glad to claim as their own, discussed the farmer in the war. He made a most effective plea for conservation of farm labor. His address complete will be published in a later issue.

Farm Organizations

Dr. Clyde L. King, chairman of the Tri-State Milk Commission, discussed some conclusions that have come to him from his study of farm economics. He traced some of the changes that have taken place in farm work in the last few years. In milk production, city regulations looking to the protection of the consumers have set up conditions that have helped throw the business of distribution into the hands of a few men. The requirement of pasteurization was a big factor in driving out the small distributor. This with other factors have put the business of milk distribution in Philadelphia into the hands of five large companies. Economic conditions in the steer feeding business centralized the business of packing into the hands of a few men, and today six men set the quotations for practically all of the meat sold in the country. In the large potato growing sections the business of buying is centralized. Six men buy practically all of the potatoes grown in Maine. The egg market is similarly affected. One ten-million dollar grocery company in Philadelphia handles the bulk of the eggs in that city, and its buyers go out into the country and buy in primary markets. The great bulk of farm fertilizers are sold by one company. Feed prices are largely set by the millers who are closely organized. We all know that oil transportation is monopolized, and we are just learning how many other commodities are nearly so.

The result of this as affecting the farmers is that when the farmer wants to sell he finds thousands of other sellers and only a few buyers. When he wants to buy he finds thousands of other buyers and only a few sellers. Organization has removed the influence of the law of supply and demand. With a million farmers selling in quantities to one concern, and with the same million buying in small quantities from another concern, the law of supply and demand has practically nothing to do with the price that is set. The only solution is for the farmers to organize to become as strong as the commercial organizations with which they deal. There are a great many farm organizations, but they need to be coordinated and they need to be supported better than they are at the present time.

National Organization of Farmers

Mr. Gifford Pinchot, a conservationist of national reputation and now associated with the Federal Food Administration, made a plea for the organization of a national farmers' organization. He declared that there was not a class of people in the country, if in the world, for which so much money has been spent as for the American farmer. Federal funds have been spent whether the farmer asked for them or not. But these expenditures have always been made with the one view of increasing production of farm crops. The farmer has been considered only as a machine for producing food, not as a home man, a social factor or as an important class in citizenship. Farmers' organization is the only thing that has forced a change in point of view, and organization must force a further change. There are thousands of farmers' organizations all over the country but these are not coordinated for most effective representation. Other interests are all organized so that one body can speak for all. The steelmen, the laboringmen, the trainmen, etc., all have their representatives. The farmers' organizations must get together and have a similar body.

Such a central farmers' body is offered in the Federal Board of Farm Organizations, recently formed. This Board has opened headquarters at Washington and stands ready to help farmers' organizations whenever called upon. In order that it may be really representative, the Board will take up a problem only when all of the recognized farmers' organizations are unanimous in their stand upon a proposition. The Board found its first work at the time of the appointment of the price-fixing committee to determine a just price for the 1917 crop of wheat. It was thru the efforts of this Board that three actual farmers were appointed on that committee. Mr. Pinchot made a strong appeal for the full development of this Board.

Hon. A. P. Sandles, of Ohio, gave an address that was much enjoyed by the crowd. Valley Grange, under capable leadership, supplied most excellent music which added much to the meeting. A real Maryland dinner was served by the ladies of Hopewell Church. No community can hold such a meeting without being better, more progressive and at least a little happier for it. There should be more of them in every agricultural county.

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Elizabeth Lends a Hand

Mrs. R. C. Burwell

Out in the cow shed one rainy Monday morning, Mr. Bushnell was busily oiling harness; the ground was littered with buckles, bits of straps and old leather halters, with which he had been mending the thin or broken parts. A box or two of rivets of different sizes, and a hammer also lay near at hand. Long sassafras poles were stretched from stall to stall, where he carefully hung each piece when he had finished it.

Mr. Bushnell's sleeves were rolled above his elbows, showing strong muscular arms. Large drops of perspiration stood upon his forehead; he was clad in a pair of muddy blue overalls, with blouse to match, and his heavy shoes, which were full of holes, were thoroly rain soaked.

"There," he said, stepping back and critically surveying his work, "I'm glad that's done. I always hate this job, but its got to be done about once a year, and there is no time like a rainy Monday to do it."

"I'd be very glad to help you, or do it all if you would let me," said his son Harvey who had been idly sitting on a barrel watching the process.

"There isn't room for two to work, and, besides, I would rather do it myself," his father answered, pushing his hat to the back of his head with a greasy hand, and wiping the perspiration from his forehead. "Its awful hot, I don't believe the rain is over yet.

"I was thinking," said Harvey with an air of hesitancy, "that I would go over to Smith's this afternoon and buy that Durham bull—if you are willing. I tell you he's a beauty; only two years old and pretty as a picture," enthusiastically.

"Now look here, Harvey," his father exclaimed wrathfully, "I've heard nothing but 'purebred stock' and 'balanced rations' ever since you came home from that agricultural school, and I'm tired of it; let everyone go into this business that wants to; I'm going to farm my land to suit myself."

"Well, Father," his son said, inclined to argue the case, "I think it is about time we did away with some of these old-fashioned ways. There are easier and better methods to be used now-a-days, and we could make twice the amount of money we now make, with very little more expense."

"Yes," continued the farmer, paying no heed to his son's remarks, "the farmers who are not fooling their time away feeding Durham bulls are spending their money buying lime and fertilizers. Look at Si English. Last year he spent a lot of money and time putting his crop of corn in scientifically, and only raised half a crop after all."

"Well, but Father," Harvey tried to explain, "the weeds got the start of him; if he had been a bit more prompt with his plow and hoe he would have raised a bumper crop."

"If, if, you are always ready with some if or other," Mr. Bushnell said gathering up the tools with energy. "I want you to understand," turning and facing his son, "that I am tired of this. If you are not satisfied with the way I farm, you are are at perfect liberty to farm elsewhere, and the sooner you make up your mind the better I'll be pleased."

"I'll do it, blamed if I don't," Harvey cried out impatiently. "I'm tired of being treated like a child, and never allowed a say in anything. If you hadn't the money, I would not complain, but there is all that money lying in the bank at three percent, when we could be making it pay us ten."

"Yes, and lose it all, and end our days in the poorhouse. No! I'll be durned if I'll do it. Either make up your mind to farm my way or leave."

"It will not take me long to decide, sir," Harvey exclaimed wrathfully. "I'll go tomorrow morning."

"Very well, go; and don't expect me to pay for any of your whims," he indignantly threw back as he left the shed, a tool box under his arm and a set of old harness over his shoulder.

Harvey walked slowly, and thoughtfully, to the house, and entered the dining-room. As he irritably threw himself into an easy chair, his eyes took in the old familiar scene. The table with its snowy cloth and center-piece of American beauty roses he so much admired, was set for dinner. The old blue pitcher which his great-great-grandmother had brought with her to this country more than a hundred years ago was in its accustomed place, filled with sweet smelling flowers. His mother entered bearing a tray which held an apple pie and a loaf of new-made ginger bread.

As the fragrant, spicy odor reached his nostrils, he began to wish he had not been so hasty; after all, could he leave his mother? His eyes followed her as she went briskly about setting the table; her sweet, cheerful smile, her gentle disposition that had always made home so dear to him, appealed to him as never before. She came presently and stood beside him and for a few moments thoughtfully stroked his wavy brown hair.

She was a pleasant-faced woman. Her black hair, parted in the middle, fell in waves over her calm forehead, and her rosy cheeks and bright eyes gave no hint of fifty years. "Been quarrelling with your father?" she asked softly.

"Oh, Mother," he said wearily, "its the same old thing. I want to keep some purebred cattle and he won't let me. He seems to forget that I am twenty-one and treats me just like a child."

Mrs. Bushnell said nothing, but continued to stroke her son's hair. Harvey knew she was wishing that he would be more patient with his father, and he, too, soon began wishing it. When the old man's footsteps were heard approaching, the mother stooped and kissed her son's brow; catching her hand he drew her down and kissed her lips with a mute appeal for forgiveness. She smiled understandingly, and turned to finish the preparations for dinner.

As the meal progressed in silence, she glanced first at one and then at the other, thinking how like they were. Suddenly the smile on her face gave way to a merry laugh, at the picture they presented; it had always been Mrs. Bushnell's way to meet tragedy with comedy.

"What do you see to laugh about, Hester?" asked Harvey the elder, in slightly aggrieved tone.

"I couldn't help laughing, father," she said with a gleam of fun in her bright eyes. "You both look as solemn as owls; its too ridiculous. Is eating ginger bread and pie such serious business?" she asked humorously, then ceasing her cajolery, she said seriously: "Here Harvey wants to keep purebreds, and feed the hay and grain on the farm, and you wish to keep scrub stock, and sell the produce. Why don't you let him have the South meadow, and experiment a little, while you farm this place?" she asked her husband, at the same time tactfully handing him a quarter of pie and pushing the cream jug in his direction.

"I shall do nothing of the sort," he replied his anger returning. "I'll hire Roy McFarlin and farm both places. Harvey can feed his Durham bulls buckwheat and honey on some other man's farm; he can't on mine," and hastily swallowing his coffee, he rose and left the table.

"That settles it, Mother," Harvey said with a sigh.

"I suspect it does, my dear; you will be obliged to make the best of it."

That evening Harvey went to see Elizabeth Judson, his promised wife. She owned the farm next to the south pasture, and lived with her Uncle Hiram and Aunt Cassy.

Elizabeth had just finished with the milk pails as Harvey came tramping thru the clover field, and seeing him she waited in the spring house. He thought he had never seen her look more lovely as she stood waiting, her dark eyes shining, and the wind tossing her wavy hair.

"You are just in time," she said, showing her even teeth in a happy smile. "I was needing some knight to put the milk can in the cooler; Uncle Hiram must have forgotten me."

"How can I," thought he, "leave Elizabeth and all these 'homey' scenes to go out in the world for I know not what?"

Elizabeth's chores done, the two found a seat under the boughs of an apple tree, and Harvey said as his arm stole around her in the moonlight, "I'm going to leave home tomorrow, Elizabeth."

"Going to leave home! What do you mean, Harvey?" she asked anxiously.

"Well, you see Father and I can't get along at all, and I'm just going to try life on my own responsibility," he explained, aware that Elizabeth would disapprove.

"What does your father do that does not suit you?" she asked coldly, moving away from his side.

"Oh, he opposes everything I suggest and treats me like a child—I think it best to go." He felt hurt at Elizabeth's coldness and lack of interest, but continued complainingly, "he won't let me help about the work, and tires himself out doing things I could just as well do as not. Why, this morning he worked like a Turk oiling the harness, and wouldn't let me touch a strap."

"Treats you like a child, and won't let you help," she mocked scornfully, "and you think it best to go and leave him alone, to overwork and have another attack of nervous prostration. Have you quarrelled with your father, Harvey?" she asked sternly.

"Well, not exactly quarrelled, but he told me if his farming did not suit me, I might go."

"Well, go if you wish, I have nothing further to say," and she arose to leave.

"Why, Elizabeth!" he cried in consternation, "you don't mean to tell me that you will break our engagement with me, just because I won't stand it to be bullied and am leaving home?"

"Bullied," she cried with flashing eyes. "I don't like that word in connection with your father. I think none the less of you for leaving if your father does not need you. I know its very hard for a young man of your energetic disposition to move along at his slow gait; but you could surely go decently. To be angry with him, to say that he bullies you—I have no use for you under those circumstances."

"You are unjust; you don't understand," he explained in self justification. "Its almost impossible to live with him since his last sickness. He finds fault with me constantly."

"Perhaps you don't realize how I feel about your father. Harvey," she said, a softer look coming into her face, "when my father died, Mother and I would have been made penniless by the rascality of Uncle John if your father had not managed things for us; and then again when Mother went, Uncle John would have sent me to a convent, but your father came to my rescue—is it any wonder I want him treated kindly? He is not so strong as he appears, and those terrible nervous spells are killing him."

"Oh, Elizabeth, it seems so easy for a woman to be patient. I do try, but I can't help 'flying off the handle' once in a while. What will I do? I have told him I'd go now, and can't back out," he said in desperation.

"Well, go, that is all right; but go home first and tell him you are ashamed of yourself, and want to be his 'good little boy' as you used to do. That's how you gained my love in the first place—by your tenderness to your father," and she smiled at him thru a mist of tears.

"Elizabeth, this will delay our wedding; if I go it will be years before I can provide a place for you, and if I ask you to marry me now it will look as tho I were begging a home," he said despairfully.

"You should have thought of that before you quarrelled with your father, sir," she answered coldly, evading his outstretched hand.

"But you will marry me some day? You won't desert me now, will you?"

"When you make up with your father, and treat him as he deserves to be treated, I will become your wife, and not before," she answered softly, slipping past him and entering the house before he could say more.

The next morning, shortly after breakfast, Elizabeth took her way across the south pasture in the direction of Mr. Bushnell's. "It would be a great calamity for Harvey to leave home now," she murmured, "he needs him now more than ever before."

"Good morning, Mrs. Bushnell," Elizabeth said brightly, when that lady answered her knock at the kitchen door.

"Its too bad, isn't it," the elder lady whispered, as she kissed Elizabeth.

"Yes, but I would not allow it to worry me if I were you. I would like to speak to Mr. Bushnell if he is about the house," Elizabeth said with pink cheeks.

"You mean,"—hesitated Mrs. Bushnell.

"I mean Harvey the elder; I saw your son last night," she said with a smile.

"He is in the sitting-room; he had a nervous spell last night. I doubt if he will be able to see you," Mrs. Bushnell anxiously informed her as she opened the sitting-room door and Elizabeth softly entered the room. Mr. Bushnell lay back among the pillows of a large easy chair, his eyes closed, while the dark rings beneath them gave ample proof of his hours of suffering.

"Is that you, Betty?" he asked without moving. "I thought I heard your voice."

In a moment she was by his side, her arm around his neck, and had impulsively kissed his sun-burned cheek. "Father," she cried, "I am so sorry to see you suffer so."

He turned his face toward her, and nestled his head against her, "I'm such a cross old bear, Elizabeth; I wonder you care."

"Indeed I do care," she said tenderly touching the gray hair reverently. "We all care—" a groan was her only answer.

"I came to talk with you a little this morning, but perhaps you are not able."

"Oh, yes, I am; go-ahead," he said taking her hand in his rough palms and holding it. She knelt beside him.

"It was about Harvey," she said, "we must not let him go—"

When she passed thru the kitchen an hour later, there were traces of tears on her cheeks.

It was perhaps ten minutes after she had gone, that Harvey entered the house.

"Harvey," his father called, "I wish you would go over to Smith's and buy that two-year-old Durham bull; I believe it would be a right good idea to keep some purebred cattle."

"Great snakes!" exclaimed Harvey joyfully, knocking a chair over in his haste to reach his father's side, "that lets me out of a terrible hole, and leaves me right here with you where I belong."

HOW FLOW OF A RIVER IS MEASURED

If you see a man leaning over the railing of a bridge intently watching the river, with a telephone receiver at his ear, do not think that the man is trying to talk to the fishes or to a diver below the surface. He is probably one of the Government's engineers measuring the amount of water passing under the bridge. This is done by lowering an instrument, known as a current meter, into the water at several points under the bridge to determine the speed of the water and by measuring the depths of the water at the same points. From such information the flow of the river at that particular time and hight can be computed, and when such measurements have been made at a number of different hights the flow of the stream at any hight can be determined. Then if a record of the hight of the river is obtained each day from a river gage, the flow for each day can be computed.

Value of Knowing the Flow of Rivers

No one starts to build a house without knowing how much room is wanted or how many people are expected to occupy the house. The same thing should be true of power plants, water-supply systems, sewage-disposal plants, levees, flood-control works, irrigation works, and land-drainage systems. If such construction work is to be done economically and successfully a knowledge of the amount of water involved is essential.—U. S. Geological Survey Bulletin.

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Marketing Your Preserves

A Maryland Woman's Way of Disposing of Surplus Fruits

Last November, while wandering around the Maryland winter fair at Baltimore, I came upon a little lady answering questions and evidently taking orders in the midst of an attractive array of canned vegetables, fruits, jams, jellies, fruit syrups, etc. The labels told me that Howell Point Farm, Md., was exhibiting those goods. I had heard about the mistress of Howell Point Farm. A friend, who had given domestic science lectures and demonstrations at Maryland farmers' weeks for several years, had told me about a lively little farmer's wife from Howell Point Farm who was at farmers' week every year all eagerness to learn more of the how and why of cooking and canning. Then, too, this busy little woman had occasionally written a little out of her experience for the Pennsylvania Farmer home pages. And so I awaited my turn to speak to the lady in charge of the exhibit.

"Can you tell me about Mrs. Evelyn Harris of Howell Point Farm?" I inquired.

"To whom is Mrs. Harris talking?" was the quick, original way of telling me that I was addressing Mrs. Harris herself.

"The home economics editor of the Pennsylvania Farmer," I replied, in some glee over having come thus unexpectedly upon one of our contributors, whom I knew only by writing.

Then, of course, I proceeded to interview her and the samples of her home-preserved products on display all around her. Mrs. Harris evidently lives on a large fruit and truck farm, most of whose produce is sold in a fresh state. But because there is always a lot of stuff that goes to waste or is sold at a very small margin of profit, Mrs. Harris undertook to make use of some of this in a way to make some money herself. At first she did it in a very small way, thru which she learned considerable about finding customers. Now, a 50-horsepower boiler and big vats cook many gallons of apple sauce at once, and this canned apple sauce is sold at wholesale. Mrs. Harris also makes canned vegetable soups out of the vegetables that would otherwise be a loss when the market for the fresh stuff is glutted. We wonder why more market gardeners do not operate canners in connection with their gardening and orchard work. Many products could thus be saved and often sold at better profit than in fresh state. Mrs. Harris says that their purpose is to specialize on apple sauce and vegetable soups, for she has found that this is generally a more profitable way to dispose of the vegetable surplus in particular than in separate canning of each vegetable by itself. The soups are made up all ready to heat up, with the meat stock and seasoning all proportioned rightly, and they sell readily where their reputation has been made.

Apple jelly is another delicious and profitable product of Howell Point Farm. The small jars in the second photo on this page contained a beautiful light-amber-colored jelly, and the sample which Mrs. Harris opened and permitted me to taste was as fine in flavor as it looked. These little jars are sold to retail at 10 cents. They hold about half as much as an ordinary jelly glass, and make a neat attractive package for serving as individual orders on dining cars, hotel tables, restaurants and in assorted varieties for fancy presents at Christmas, etc. They are quite readily disposed of to delicatessen stores. They are capped with metal covers by means of a small capping machine similar to that illustration on page 12 of the August 11 issue of Pennsylvania Farmer. The larger jam jars shown in the same illustration were capped in the same way.

Mrs. Harris' labels are neatly printed, and those which were pasted at the base of the jars permitted one to see the contents readily, and made the jars look very attractive. The neatness of the package has a great deal to do with selling a home-preserved product as well as any other kind of a food package.

The problem of help for the preserving work is troublesome in any year, but trebly so in these war times. The capacity of the Howell Point Farm cannery could use 20 people in rush times, according to Mrs. Harris, but they think themselves lucky to get 8 hands. Mrs. Harris looks after the fruit and vegetable preserving feature, while Mr. Harris manages the harvesting and fresh truck business. Last year Mrs. Harris sold about $1400 worth of preserved stuff. Exhibits at fairs and samples at delicatessen stores and hotels are her means of interesting new patrons in Howell Point Farm canned goods and jellies. The Maryland winter fair was evidently proving a good medium for interesting new buyers.

SPECIMENS FROM MRS. HARRIS' EXHIBIT.

MRS EVELYN HARRIS, IN HER CANNED GOODS EXHIBIT AT MARYLAND FAIR.

Mrs. Harris is the mother of several small children, four or five—I have forgotten which—and the older ones are able to help their mother considerably but Mrs. Harris believes that childhood is playtime as well as training time, and so is as eager an inquirer after information about the proper development and management of children as about conserving the garden and orchard products. It is for the kiddies' future education that she is anxious to make money now.—Hariet Mason.

Made-In-Maryland Pickles That Sell

(The following recipes are from the experience of another lively young Maryland matron who sells some of her goodies to a private trade. It was also my good fortune to "run across" Mrs. Jean the same day at the Maryland winter fair as that on which I met Mrs. Harris.—Harriet Mason.)

Mixed Yellow Pickle

300 small cucumbers
½ peck small onions
¼ peck string beans or chopped cabbage
2 large heads of cauliflower.

Put all these ingredients in strong salt water, and let stand over night. In the morning drain and cover with good vinegar. Then pour off the vinegar, and mix with it the following spices, and let it boil a minute: (The spices) ½ lb. ground mustard, 1 large cup grated horseradish, 2 oz. turmeric powder, 1 oz. mustard seed, 1 oz. celery seed, and 1 lb. granulated sugar. Now add to the spiced vinegar all the vegetables except the cucumbers, and let boil 30 minutes. Then add the cucumbers and seal while hot.

Cold Catsup

1 peck ripe tomatoes cut fine and drained all night
1 cup salt
1 cup white mustard seed
1 cup grated horseradish
1 large stalk celery, cut fine
1 tablespoon black pepper
1 quart vinegar (dilute if strong)

Mix all these ingredients together very thoroly and seal without cooking. The vinegar and salt will keep them from spoiling.

Mango Peppers

Remove the seeds from 12 large sweet peppers, cut fine 2 large heads of cabbage and salt to taste. Mix together 2 teaspoons celery seed, 2 teaspoons mustard seed, 1 scant teaspoon turmeric and 1 tablespoon mixed spices. Press the water from the cabbage, stuff it into the peppers, turn them upside down on a board and leave over night. In the morning boil up enough vinegar with the spices in it to cover well the peppers. When it has cooled to barely warm, pour it over the peppers packed in a stone jar, weight down with an inverted plate so as to keep the peppers under the vinegar, and tie a paper over the jar. In three weeks the mangoes will be ready to eat.

Bordeaux Sauce

2 quarts cabbage, cut fine
1 quart green tomatoes
3 large onions
¼ cup salt
1 quart vinegar
3 sweet peppers
1 oz. white mustard seed
½ oz. celery seed
1½ lb. sugar

Use the slaw cutter as a quick way to cut all the vegetables. Mix all the ingredients, including the vinegar, and let stand 30 minutes. Then boil 20 minutes, and seal in glass jars. This may be eaten immediately, and is a delicious relish.

Pickled Peaches

½ lb. sugar per each lb. fruit.
1 pint vinegar
1 oz. black mustard seed
1 oz. celery seed
1 oz. cinnamon bark

Boil the vinegar and the spices together and pour over the fruit boiling hot. Do this three times, heating the vinegar as soon as it cools. The fourth time, heat the fruit in the vinegar, but do not boil. The spices should be tied in a bag.

Pickled Cauliflower

2 heads cauliflower
1 pint small onions
3 medium red peppers
½ pint salt
2 quarts vinegar
4 tablespoons mustard
Water enough to cover the cauliflower.

Break up the cauliflower, remove seeds from the red peppers. Dissolve the salt in the water, put in the cauliflower, and let stand over night. In the morning drain out the cauliflower and heat the vinegar containing the mustard until it boils, then add the vegetable, boil 15 minutes or until a fork can be thrust thru the cauliflower. Seal.

Plum Catsup

Cook the plums, and when cool put thru a sieve to remove the stones and skins. To 5 lb. fruit allow 2 lb. sugar, 1 pint vinegar, 1 teaspoon each of salt and pepper, 1 tablespoon each of cinnamon, cloves and allspice. Boil 20 minutes and seal.

Sweet Pickled Canteloupe

Peel and slice your canteloupes. Then for each 2 lb. of the melon allow 1 lb. brown sugar, 1 quart vinegar, 1 tablespoon cloves, 1 stick of cinnamon, 1 teaspoon allspice, 1 oz. celery seed and ¼ teaspoon mustard. Boil the melon in this vinegar (with the spices tied in a bag) until the melon can be easily pierced, then pack in cans, cover with the vinegar, and seal.—Mrs. Elizabeth O. Jean, Baltimore Co., Md.

GASOLINE FLATIRON EXPERIENCE

Has Used One Four Years

In reply to your inquiry about farm women's experience with gasoline flatirons, I say use one by all means. I have used one for four years and like it very much. It cost me $3.50, is very simple in construction, and I purchased it of an agent in our neighborhood who sold them from house to house for several years. The fuel tank is attached to the burner tube at the front of the iron, and I do not find that this location of the tank is any hindrance. I never have any trouble with the iron if I use good gasoline that has been strained. I know of no accidents from the use of gasoline flatirons, and there are several in use in this locality. Of course one must take the same precaution about filling it as with a gasoline stove or an ordinary kerosene lamp. It has been very easy to keep in order, and we have never had to have any repairs whatever. If one uses it enough

to become accustomed to it, one would never go back to the old way of ironing. It is a little awkward at first, and likely to make one nervous. It did me, but I soon got used to the iron, and now feel no more nervous than when using an ordinary flatiron.

It does not tire me nearly so much to do my ironing with my gasoline iron as it used to with the old irons, because I do not have to be continually traveling back and forth to the hot stove, and stuffing the stove with wood all the time. I can do my ironing in a comfortable room, and regulate the heat of the iron high or low, as the garment requires. I like it also for pressing, because the heat can always be kept even.

The expense of operation is very small when we consider the amount of wood or oil we would use in the same length of time for the same amount of work. My tankful of gasoline will iron for about two hours. One quart of oil should do about six ironings for a good-sized family.—Mrs. Oscar Harvey, Alleghany County, Pa.

Two Years' Experience

My experience with a self-heating flatiron covers about two years. I saw an advertisement in a farm paper, and ordered one. I first used kerosene, but did not get very good work, so I wrote to the company about it. They replied that I was not heating the iron hot enough before I lit it. I tried that, and never had any more trouble. Now I use gasoline in it most of the time. One quart will do six ironings for me, ironing three hours at a time. That is only about one cent for my fuel. I put the iron on the range while I am getting breakfast, and let it stay until I am ready for the ironing. Then it is good and hot, and I fill the tank two-thirds full of gasoline, pump it full of air, turn on the needle, touch a lighted match to it, put the top on and go to ironing. If it gets too hot, I turn it off some.

Nothing ever sticks to a self-heating iron, and I can iron my clothes until they are dry without scorching or yellowing them. Besides saving fuel I save steps, and I can sit while ironing.

There are lots of self-heating flatirons used in this county, but some have used theirs only a few times, then put them aside because they can not get good results, they say. I have never had any trouble or accident with mine. It must be perfectly safe, for if dropped it keeps right on burning as if nothing had happened. I consider it one of the greatest economies in my housekeeping equipment.—Mrs. H. O. Hall, Wicomico Co., Md.

EAT MORE CHEESE

"Store" cheese — more properly known as American Cheddar—is more nourishing pound for pound than any meat and therefore should have a prominent place in the diet as a meat substitute. Few people in this country eat cheese in sufficient quantities for it really to form an important part of the daily fare. It is used more often simply as an appetizer or as a seasoning for some other food. Nearly every one relishes good American Cheddar or "store" cheese, but there is an impression that it is indigestible and constipating. Extensive digestion experiments carried on by the Department of Agriculture have demonstrated that more than 95 percent of the protein of cheese is digested and 90 percent of its energy is available. Even when eaten in large quantities and for long periods, no case of indigestion, constipation, or other disturbance was observed in those who ate it.

American Cheddar cheese is a very satisfactory substitute for meat. It can be kept in storage for a long time, and contains much food in small volume. A pound of cheese supplies more than twice as much energy as a pound of fowl or round steak and almost twice as much protein as the same amount of fowl or ham. Cheese, therefore, is usually a cheaper food than the meats.

Recipes and further information are given in Farmers' Bulletin 487, "Cheese and Its Economical Uses in the Diet," which may be obtained free on application to the Department of Agriculture, Washington, D. C.

I CONTRIBUTE MY BOY

I am called on to give for my country what is dearer to me than my life, the life of our lad. I am trying to possess myself of courage and pray that the young life which is so precious to us can push forward in the world's work of righting wrong. He has had good training for this, the emergency of our lives. When a mere child and he wore his first sailor suit, his shoulders were square and he looked the part of a little soldier. His first year in high school gave him a broken leg from football, battling for championship of strength and skill. Two years after finishing high school the other leg was broken in the same kind of a fierce battle the boys play. The ordeals were cheerfully born, and he was on duty again. He has faced moral battles as well as physical. In the trench of temptation, with Christian courage he arose and faced life to fight for right. I have worked day after day, and year after year to strengthen his character as well as body.

FRUIT SYRUPS.

Perhaps the little sacrifices I have made thru the years for his health and happiness and progress should have prepared me to make this the biggest sacrifice, but I have fought untold battles with myself to contribute my boy to this cause of universal peace. It is the way in which many mothers must do their soldiering. Who shall say which requires most bravery, the soldier or the soldier's dear ones at home? —Mrs. C. J. S., Shiloh, N. J.

COFFEE SUBSTITUTE

Perhaps not many families have yet felt the need of a substitute for coffee. But it is gratifying to know that such can be made if prices continue to go up. We make an excellent substitute as follows:

Take three quarts of plump, recleaned, hand-picked wheat and place in two dripping pans. Roast in a hot oven, stirring when needed to keep from burning. When thoroly roasted, add three tablespoonfuls New Orleans molasses to each quart of wheat. Then roast ten or fifteen minutes longer, but with less fire, as it burns more easily after the molasses has been added. And it must also be stirred almost continually to keep from burning. When done, empty each dripping pan into a large pan that will hold all you have, and with a spoon mash lumps to prevent caking as it cools. When cold, put in tight jars and store in a cool, dark room. Grind as you would coffee and boil about twenty minutes. Two teaspoonfuls make four cups of drink as strong as we care for it. After a little experience in making you will be able to turn out a product that will surpass the highly advertised cereal drinks that sell for 25 to 30 cents per pound. —R. L. Carrier, Bradford Co., Pa.

PENNSYLVANIA FARMER PATTERNS

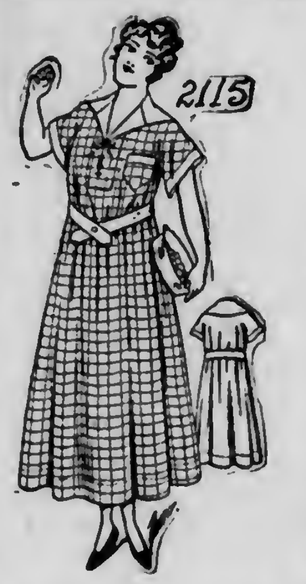
Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

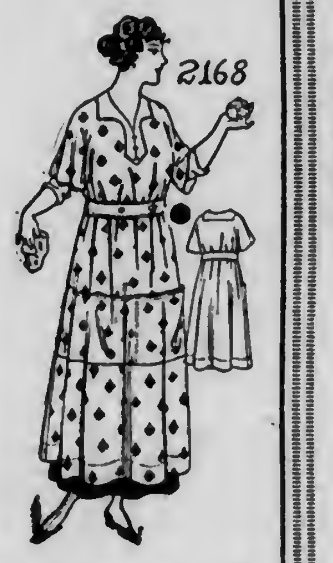
Slip-on Work Dress.—In your Oct. 14, 1916 issue, page 14, Esther A. Cosse described in her article, "Worn in the City", a pretty house dress which she said sold for $2, but which one could make at home for only 50 cents. She said that it had kimono sleeves, was sewed up under the arms with only two seams in the garment, and had square or pointed neck opening. I think that I would like to have a pattern for a dress like this if you can get it for me.—Mrs. H. B., Spring City, Pa.

Here are some attractive designs of the style which you mention.

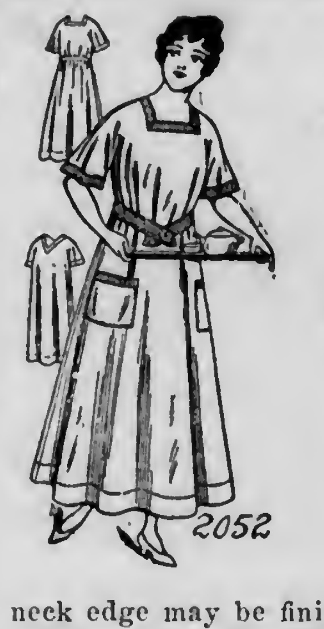
2115.—"Cover All" Apron or Work Dress.—This apron may serve very well as a house dress, and with the cool neck and sleeve is especially attractive for warm weather. Pattern is cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42, and extra large, 44-46 inches bust measure. Medium size will require 5¾ yards of 36-inch material. Price, 10 cents.

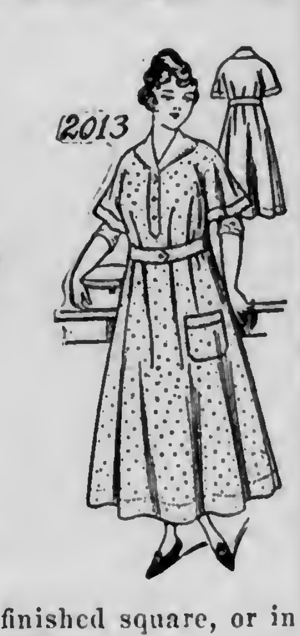
2168.—A Handy Middy Work Dress.—The pocket may be omitted. The pattern is cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42, and extra large, 44-46 inches bust measure. Medium size requires 6¼ yards of 36-inch material. Price, 10 cents.





2052.—"Easy to Make" Design.—But little time, material and labor are required to make this neat and serviceable garment, which may serve as a work dress or apron. It is comfortable and allows freedom of movement. The neck edge may be finished square, or in "V" outline. The fulness may be confined by a belt or a drawstring or rubber run thru a casing. The garment may be slipped over the head or closed on the shoulders. This pattern is cut in 4 sizes: Small for 32 and 34 inches bust measure; medium for 36 and 38 inches bust measure; large for 40 and 42 inches bust measure, and extra large for 44 and 46 inches bust measure. It requires 5¾ yards of 36-inch material for a medium size. Price, 10 cents.





2013. — Ladies' Apron Dress. — This model is comfortable and easy to develop, easy to wear and easy to launder. The pattern is cut in 4 sizes: 34, 38, 42 and 46 inches bust measure. It requires 5 yards of 36-inch material for a 34-inch size. Price, 10 cents.

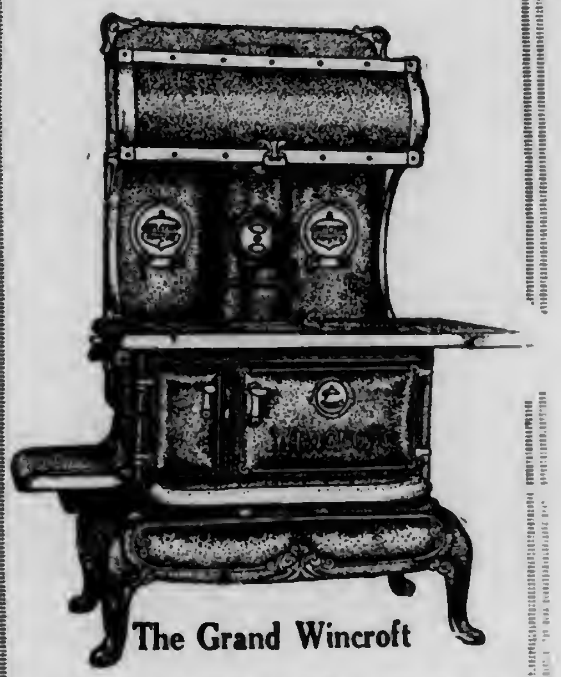
Wincroft Ranges

Our Ranges are built primarily for the woman who spends no small partof every day in the use of a kitchen range. They are not built for show purposes, but rather are designed and made with the latested labor and fuel saving devices.

The cuts below show three of our most popular Ranges—one of them will surely meet your requirements. Before buying a range, go to your dealer and ask him to show you any of these as shown below. Prove to yourself that Wincroft Ranges for the price asked are all that we claim them to be.
Our dealer will gladly serve you.

Family Wincroft

A range of plain design. Has Deep End Hearth, large properly shaped Firebox. The Top Band, End Shelf Band, Hearth Band, outer Oven Shelf finished in Nickel. Adapted to hard or soft coal, wood or crushed coke.



The Grand Wincroft

Among its many features is the Deep End Hearth. Detachable Contact Reservoir, and classic High Closet.

Royal Wincroft

Has Deep End Hearth, Heat Recorder, High shelf, Simmering Cover, and Detachable Copper Reservoir.

WINCROFT STOVE WORKS,
Middletown, Pa.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Aug. 27, 1917.

The market on potatoes is holding up in good manner and with the increasing receipts of Jersey potatoes the demand is good and the market steady. Eastern Shore of Virginia continues to provide liberal shipments and while the general quality of this stock is good a large portion is arriving in heated condition and selling at very low prices. The best Irish Cobblers from Virginia are selling at $3 to $3.25 per barrel and poorer grades at $2.50 to $3 per barrel. Second grades are in fair request at $1.50 to $2 per barrel. Second grades are in fair request at $1.50 to $2 per barrel. New Jersey is shipping largely the Irish Cobbler variety and packed in the ⅝-bushel baskets are selling at 70 to 80 cents for first grades and at 40 to 50 cents for seconds. In bulk the sales were made at $1.15 to $1.20 per bushel.

Sweet potatoes are running in light supply and meeting with an active demand on a stronger market. North Carolina sweet potatoes of various varieties packed in cloth-topped barrels are selling at $4 to $4.50 per barrel when fancy, other stock at $3.50 to $3.75 per barrel. Second grades are selling at from $1.25 to $2 per barrel. Eastern Shore of Virginia is shipping less than car-lot quantities and the quality and general conditions are good. Sales range from $5 to $5.25 per barrel for fancy grades and at $4 to $4.50 per barrel for poorer grades. Second grade stock is selling at $2 to $2.50 per barrel. Jersey sweets are in light receipt and strong demand. In ⅝-bushel baskets first grade stock is selling at $1.65 to $1.75 and second grades at from 75 cents to $1.25 per basket, depending on the grading.

Vegetables

Prices received on the market for sugar corn show no consideration for the increase in cost of production this year as compared with last year. At this period last year the prevailing prices on Pennsylvania corn were $1.25 to $1.40 per hundred ears. Today the price ranges from 50 cents to $1 per hundred. Last year's figures on Jersey corn show sales prices at 40 to 70 cents per basket. Today's prices are at 20 to 50 cents per basket. The older and very poor stock is selling at lower quotations.

Last season's sales of lima beans make an interesting contrast with the prices of the corresponding week in this year. Present prices on Jersey lima beans range from $1.25 to $1.50 per basket; last year at this date the price secured was from 45 to 60 cents per basket. Green beans are scarce and the market is higher on fancy stock. Sales on green beans are ranging from $1 to $1.50 per ⅝-bushel basket and some young, tender stock is selling slightly higher than those quotations. Wax beans are showing poor quality and the bulk of the sales are made at 75 cents to $1 per ⅝-bushel basket.

Fancy tomatoes are in light supply and the market is running strong on fancy Jersey stock at 75 cents to $1 per basket and on second grades at 35 to 50 cents per basket. Strictly fancy stone tomatoes are in limited supply but sales are exceeding the above quotations. Cabbage prices suffer from the continued heavy supply and the crop remains a drug on the market. Jersey cabbage is selling at 15 to 30 cents per basket and Pennsylvania stock at 75 cents to $1 per barrel.

Bunched beets and carrots are meeting with very good demand and holding firm in price. Beets are selling at $2.50 to $3.50 per hundred bunches and carrots at $1.50 to $2 per hundred bunches. Radishes are in poor request and sales are draggy at $1 to $1.25 per hundred. Jersey green peppers are very heavy and moving with difficulty at 15 to 25 cents per basket. The long finger variety sell at 40 to 50 cents and the tomato variety at 60 to 65 cents per basket. Cucumbers of desirable size and color sell at 35 to 50 cents per basket and less desirable qualities as low as 20 cents per basket.

Egg plants are making the poor return of 15 to 30 cents per basket. Squash sell slowly at 15 to 25 cents per Jersey basket. Receipts of onions from near-by sections are very liberal and the quality and condition are running good. In ⅝-bushel baskets the yellow danvers are selling at 90 cents to $1 per basket. Eastern Shore of Virginia is shipping in bushel hampers but much of the stock is arriving in heated condition. Sales range from 60 cents to $1 per bushel.

Fruits

The better varieties of Jersey peaches are arriving now and the market is fairly active on fancy stock. There is a wide range in the quality and condition of the fruit and much of that arriving is finding slow sale because of the inferior condition. Crawfords are meeting with best demand and sales on fancy stock are made at $1 to $1.25 per 16-quart basket. Choice grades of Crawfords are selling at 75 to 90 cents per basket. Belle of Georgia stock is selling at 70 cents to $1 per basket. A few Elberta peaches are arriving now and selling at $1 to $1.25 per basket. Champions are in good demand when fancy at $1 to $1.25 per basket and poorer grades at 50 to 75 cents. Carmans are moving out freely at 50 to 75 cents for the best marks and at 30 to 50 cents for the poorer run of stock. Shipments of Delaware peaches are running light and the best quality fruit is meeting with good prices. Delaware Belles are selling at $1.10 to $1.40 and Elbertas at $1.50 to $1.60 per crate of six carriers. In half-bushel hampers Belles are selling at 80 to 90 cents; Elbertas at 90 cents to $1 per basket.

A large variety of Jersey apples are on the market and compared with other seasons prices are very favorable for the grower. Blush, Wealthy, Orange Pippin, Gravenstein, Smokehouse, Greening and Fall Pippin are the leaders and prices vary from $1.15 per ⅝-bushel basket for fancy Blush and Wealthy apples down to 60 cents for Greenings and Fall Pippins. The second grades of these varieties are selling at 20 to 35 cents per basket.

Receipts of Jersey canteloupes have been heavy in the past week but the demand has continued strong and prices steady. Various varieties of New Jersey stock are selling at 50 to 75 cents per basket for primes and at 25 to 40 cents for culls. Delaware and Maryland shipments of canteloupes are running only fair in quality and green meats in standard crates sold at 75 cents to $1; jumbos at $1 per crate. California Turlocks continue to arrive despite the heavy local supply. Green meat standards are selling at $2 to $2.25 per crate; ponies at $1.50; Standard flats at $1 per crate.

Delaware grapes are in liberal receipt and fancy stock is selling at 75 cents to $1 per crate. Pony baskets are bringing from 10 to 13 cents per basket. Plums from near-by sections are arriving, packed in 16-quart baskets and selling at 60 cents to $1 per basket. Good huckleberries are scarce and the market is steady at 10 to 13 cents per quart. Red raspberries are in strong demand at 8 to 10 cents per pint. Blackberries are moving out well at 8 to 12 cents per quart.

Supplies of watermelons are running very heavy and the market is draggy. Carlots are in a wide range of quality and condition and selling all the way from $80 to $200 per car. Jersey melons are being jobbed out at $15 to $35 per hundred.

Poultry

The market on live poultry is ruling firm under light offerings and a fair demand at steady prices. Fowl of desirable quality are selling at 23 to 25 cents per pound with a few exceptional lots selling higher. Old roosters are moving slowly at 15 to 18 cents. Spring chickens are in good demand at 25 to 28 cents per pound and ducks at 17 to 19 cents.

Light arrivals of fancy dressed fowl have urged a stronger market and fresh-killed and dry-picked fowl are selling at 25 to 26½ cents per pound. Medium weight stock, 22 to 24 cents. Old roosters, dry-picked, 20 cents. Western roasting chickens 25 to 26 cents per pound when averaging 8 to 10 pounds per pair, and stock averaging 7 pounds per pair sold at 23 to 24 cents. Western broiling chickens weighing 3 to 4 pounds per pair are selling at 25 to 26 cents and near-by broilers at 30 to 32 cents. Fancy Jersey broilers are meeting with good demand at 32 to 35 cents per pound.

Eggs

The egg market is in good shape and firm with fresh arrivals closely sold up. Near-by firsts are selling at 40 cents per dozen; near-by current receipts at 39 cents; seconds, 35 to 36 cents. Western extra firsts are selling at 40 cents and firsts at 39 cents. Southern shipments are selling at 37 to 38 cents.

—Selmarad.

LANCASTER PRODUCE

Lancaster, Pa., Aug. 27, 1917.

Despite a plentiful supply of county canteloupes, they were held at high prices, the larger ones selling for 20 cents. Corn was over-abundant and sold at from 10@18 cents. There was a large supply of butter and eggs, but high prices prevailed and many of the market patrons refused to buy. Potato prices were unchanged.

Butter and Eggs.—Butter, creamery, 50c lb; country butter, 48@50c lb; fresh eggs, 38@40c per dozen.

Poultry.—Old chickens, dressed, $1@1.25; young chickens, dressed, 75c@$1; live chickens, $1.50@2 per pair; live chickens, old, 18c per lb.

Vegetables and Fruits.—Corn, 10@18c doz; new beans, 15c ½ pk; lima beans, 10c pt; squash, 4@5c each; lettuce, 5@12c hd; cauliflower, 15@20c hd; eggplant, 5@10c each; cabbage, 2@8c; sweet potatoes, 30c ½ pk; potatoes, $1.10 bu; do., 12@15c ½ pk; new turnips, 5@10c ½ pk; parsnips, 5c box; apples, 10@20c ½ pk; canteloupes, 3@20c each; pears, 15c ½ pk; peaches, $1@1.25 basket; do., 20@25c ½ pk.

Grain Market.—Milling wheat, $2 per bu; damp wheat, $1.75; ear corn, $1.68; corn, $1.68; rye, $1.56; timothy hay, $18@19 ton; mixed hay, $16@18 ton; wheat straw, $11@12 ton.

YORK PRODUCE MARKET

York, Pa., Aug. 27, 1917.

There was an over-supply of apples at the city markets this week. There was little demand for them at any price. Corn was not plentiful and sold readily at rather low prices. Eggs advanced several cents per dozen, but few were sold. Butter is almost an unknown quantity at the markets.

Eggs.—38@40c per dozen.

Butter.—Country, 40@42c lb; separator, 45@48c lb. Milk, 8c quart.

Poultry.—Slow sale. Hens, 20@21c lb; springers, 20@22c per lb; dressed, 75c to $1.50 each.

Vegetables.—Potatoes, 12@18c ½ pk; $1 to $1.25 per bushel. Cabbage, 2@8c head. Lettuce, 2@5c head. Beets, 5c bch. Radishes, 5c bch. Onions, 5c bch; 10@12c ¼ pk. Lima beans, 10@15c qt. Soup beans, 35c qt. Celery, 5@8c bch. Turnips, 10@15c ½ pk. Corn, 12@20c a dozen. Egg plants, 3@10c each.

Fruit.—Apples, 8@20c ½ pk; 8@10c box. Blackberries, 8@10c box. Plums, 8@10c box. Peaches, 5@12c box; 10@30c ½ pk. Cantaloupes, 3@10c each. Watermelons, 25@50c each.

Retail Grain Market.—Wheat, $2.25; corn, $2; oats, $1; rye, $1.75; bran, $2.20 cwt; middlings, $3.25 cwt.

Wholesale Grain Market.—Wheat, $2.05; corn, $1.60; oats, 60 to 70c; rye, $1.40; bran, $40 ton; middlings, $60 ton.

NEW YORK PRODCUE

New York City, Aug. 27, 1917.

Fresh butter is scarce and market is strong. Cheese slightly firmer. Egg market opens rather quiet. Potato trade fair but top quotations hard to get. Much of the stock is small.

Butter.—Creamery, extras, (92 score), per pound, 43c; higher score, 43½@44c; thirds to firsts, 38@42c; state dairy, 36@42c; ladles, 34@38c.

Cheese. — Fresh colored specials, 23¾@24½c; white, 23¾c; undergrades, 14@17c.

Eggs. — Fresh gathered extras, 45@46c; extra firsts, 43@44c; nearby white, fine to fancy, 54@56c; ordinary to good, 42@53c; browns, 46@50c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 30@33c; old roosters, 17@19c; squabs, $1@4 per dozen. Spring ducks, per lb., 20@22c; turkeys, fresh killed, 22c.

Live Poultry.—Fowls, fancy, heavy, 26c lb; do., average run, 24½@25c; do., small or poor, 24c; chickens, fancy, heavy, 30c; do., average run, heavy, 28@29c; do., average run, Leghorn, 28c; do., small or poor, 26@27c; old roosters, 16@17c.

Vegetables and Greens.—Beans, per bu. basket, $1.50@2.25. Beets, per bbl., $1.25@1.75. Onions, per crate, 50c@$1. Potatoes, Jersey, $2.25@3.25 per bbl. Carrots, $1.75@2.25 per bbl; lettuce, 40c@$1.25 basket. Corn, per 100, 50c@$1.25; cucumbers, 25@50c basket; peppers, per bbl., $1@1.50; tomatoes, Jersey, 50c@$1 per box.

LANCASTER LIVE STOCK

Lancaster, Pa., Aug. 27, 1917.
(Reported by McClain Commission Co.)

The receipts of cattle for today's market were 175 cars, as compared with 94 cars last Monday, and 223 cars the corresponding Monday in 1916. The supply came from Virginia, 85 cars; Chicago, 47 cars; Buffalo, 12 cars; St. Paul, 11 cars; Pennsylvania, 8 cars; Ohio, 5 cars; Indianapolis, 3 cars; New York, 2 cars; Pittsburgh, 1 car; Maryland, 1 car.

It will be noted that of the total supply, 85 cars or practically one-half the entire number, came from Virginia and all of these were for slaughtering purposes, supplemented by at least 25 cars more from Chicago and Buffalo for slaughterer's uses. Under the circumstances there was more meat-making stuff on sale than the demand could digest. Opening prices were about steady with those of last Monday, but before the trading was half over, a decline set in and at the finish, prices were a strong quarter lower than at the opening and with plenty of cattle unsold.

The two best carloads on sale weighed 1,275 lbs., from Virginia, had pretty good flesh and quite a lot of fat. The salesmen held them at $12.50 but could get no bid today. The best steers sold were a load of Virginias that were pretty good, weighing 1,100 lbs., and sold at $11.75. Another carload from the same place and about the same kind, weighed 1,060 and sold at $11.50. One car of Chicago steers that weighed 1,000 lbs., and had fair kill to them, sold at $10.75. One car of Virginia steers of about like quality, weighed 1,050 and sold at $10.80. One car of Virginia heifers, that looked like good meat, weighed 975 and sold at $11.10. Another car weighed 920 and sold at $10.15. Another car weighed 880 and sold at $10 and still another of Virginia heifers of very good quality, weighed 810 sold at $9.75.

Of stockers and feeders the supply was plenty enough to meet the demand. The kind offered ranged from common light weights to a pretty good kind of feeders weighing 900 lbs. The bulk of the offering were a grade weighing from 600 to 750 lbs., of an ordinary class. Prices in this department of trade were a shade weaker than last week's prices for kinds that were similar. One bunch of 12 nice deborned feeders, averaging 900 lbs., were taken by a Chester County farmer at $9.15. One bunch of 28 head of Canadian stockers weighing 800 lbs. sold at $8.85. They had pretty good quality. Another bunch of 20 head of Canadians, of about the same quality, weighed 750 and sold at $8.60. One bunch of fair feeders averaging 925 went to Chester County, at $8.90, and another bunch of 14 head that weighed 823, that had pretty good quality, went to the same place at $8.75.

A number of sales of fair grade of stockers weighing 750 to 800 lbs. were made at $7.75 to $8.25. A plain grade of the same weights sold at $7.40 to $7.60. Common light weight stockers 500 to 700 lbs. sold at $6.85 to $7.25.

The stock bull market didn't have the animation of last week or the week before, and salesmen that had this kind of stock complained of prices, fully 25 cents lower. Several bunches of a pretty good kind sold at $8.25 to $8.50. What the trade called fair, sold at $7.75 to $8. A plain kind ranged from $7 to $7.50. Bologna bulls were very plentiful, and sold 25 cents lower; weights 900 to 1,200 lbs., and prices $7.25 to $7.60.

PITTSBURGH LIVE STOCK

Pittsburgh, Pa., Aug. 27, 1917.

Cattle.—The supply on sale Monday was 140 loads compared with 110 loads the week before. The market opened slow at about steady prices on the choice cattle with weight, which were in light supply, while all other grades ruled from 15 to 35c per cwt. lower, the plainer the grades the more the decline. Heifers higher on the choice weighty grades while medium weights were steady and light grades were lower. Cows steady on all grades. Bulls steady on best and easier on plain light weights. Best fresh cows steady; other grades and springers slow. Today's supply was 170 carloads. The market ruled generally slow, with choice fat steers of good quality selling steady, but other grades dull and lower.

Good to choice	$12.50@12.65
Good, 1300-1400 lb.	11.75@12.35
Medium to good, 1200-1300 lb.	11.10@11.50
Tidy, 1050-1150 lb.	11.00@11.50
Fair to medium, 1000-1100 lb.	9.35@10.35
Fair, 900-1000 lb.	8.00@ 9.25
Common, 700-900 lb.	7.00@ 8.00
Common to good fat oxen	7.00@ 8.50
Common to good fat bulls	7.00@ 9.00
Common to good fat cows	6.25@ 9.00
Rough, half-fat, 1000-1300 lb.	8.50@10.00
Heifers, 700-1100 lb.	7.00@10.50
Bologna cows	5.25@ 6.00
Fresh cows and springers	$25@90

Calves.—Receipts of veals light; market steady all week. Today's receipts were 1,500 head, and the market ruled slow and lower.

Veal calves	$11.00@15.75
Heavy and thin calves	5.00@ 9.00

Hogs.—The supply of hogs has been fair. With a good demand the market ruled steady to strong the early part of the week, but with very heavy decline at all western markets our market ruled in sympathy and the close for the week was very bad, being $2.25@2.50 per cwt. below Monday's high prices. Today's receipts were only 15 carloads, and the market higher than on Saturday, but still $1.75 short of the high prices of a week ago.

Prime heavies	$17.75@
Heavy mixed	17.75@
Prime medium weights	17.75@
Best heavy Yorkers	17.65@
Light Yorkers	16.75@
Good pigs	15.50@15.75
Common to good roughs	15.00@15.50
Stags	13.00@14.00

Sheep and Lambs.—Sheep and lambs have ruled in fair supply. Sheep ruled active and 25c per cwt. above Monday's prices, while lambs were slow and 10c per cwt. below Monday's prices. Today's supply was 25 double-deck loads. With the demand fair the market ruled slow, with sheep ing steady with last week, but lambs lower.

Best wethers	$10.75@11
Good mixed	9.50@10
Fair mixed ewes and wethers	8.00@ 9
Culls and common	4.00@ 6
Culls to choice yearlings	8.00@12
Spring lambs	11.00@11

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Aug. 27, 191

Baled Hay and Straw.—Receipts, 192 of hay and 3 cars of straw. There was tle trading, but offerings were only mode and values ruled steady.

Timothy hay, No. 1, large bales, $20@21 No. 1, small bales, $20@21; No. 2, $17 @18.50; No. 3, $15.50@16.50; sample, @11. Clover-mixed hay—Light mixed, $17 18; No. 1 do., $16@17; No. 2 do., $14@1 Straw.—No. 1, straight rye, $13@13.50; 2 do., $12@12.50; No. 1 tangled rye, 12.50; No. 2 do., $11@11.50; No. 1 wh straw, $11@11.50; No. 2 do., $10@10.50 No. 1 oat straw, $11@11.50; No. 2 do., $9 @10.

Bran.—The market was dull and unchang ed, with ample offerings.

Soft winter bran, in 100-lb. sacks, per to $35.50; spring bran, in 100-lb. sacks, ton, $33.50@34.50.

Corn.—There was little trading, and val were largely nominal.

Car lots for local trade, as to locatio Western, No. 2 yellow, $1.91@1.92; do., N 3 yellow, nominal; do., No. 4 yellow, nomina do., No. 5 yellow, nominal.

Oats.—No. 2 white, 80@81c; standard white, 76@79c; No. 3 white, 75@76c; N 4, white, 74@75c.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Aug. 27, 1917.

Butter.—Outside advices were stronger a the market advanced ½ cent on solid-pac creamery and 1 cent on prints, influenced limited offerings and a fairly active dema Fancy solid brought the outside rate wit difficulty. Some of the arrivals were sho ing summer defects of quality, but at i side figures dealers were able to effect a clearance of this description. Fancy pri were well cleaned up at the advance a noted, but there was some unattractive sto offering, which was quiet and barely stead

Western, fresh, solid-packed creame fancy specials, 45½c; extra, 43½@44½ extra firsts, 42@43c; firsts, 41c; seco 40c; nearby prints, fancy, 48c; average e tras, 46@47c; firsts, 43@44c; seconds, @42c; special fancy brands of prints jobbing at 51@54c.

Cheese. — Country advices were stron and prices were sympathetically advanced cent under light offerings and a fairly act demand.

New York full cream, fancy, June 2 specials higher; do., current make, best, 24 @24½c; do., choice, new, 23½@24c; fair to good, new, 22½@23c.

NEW YORK MILK MARKET

New York City, Aug. 27, 1917.

There is a considerable surplus in market. Its presence is credited to the hi retail prices. One railroad official mates the total surplus at about 20,000 It is a question as to whether there is a shortage in production as is generally gued in view of the large increase in conde ing plants and product in the New York shed within the last three years. The p ent situation will have a bearing on the rates to be named in October. The Dai men's League rates to the producer of Gr B (barn score 55) in the 26-cent zone $2.55 a hundred for 3 percent milk; $2 or 5.86 cents a quart for 3.6 percent mil and $2.90 for 4 percent milk.

The receipts of milk and cream in quart cans for the week ending August were as follows:

Railroad	Milk	Cr
Erie	41,467	2,
Susquehanna	3,488	
West Shore	11,948	1,
Lackawanna	67,290	2,
N. Y. Central (long haul) including Rutland	135,378	4,
Ontario	38,271	3,
Lehigh Valley	42,560	
New Haven	2,542	
Pennsylvania	25,190	
Other sources	7,190	
Totals	375,324	15,
Same week last year	383,952	18,

ELGIN BUTTER MARKET

Elgin, Ill., Aug. 25, 1917.

Forty-one cents was bid for butter on Elgin Board of Trade today. There were sales.

TOBACCO MARKET

The market situation in Pennsylv amounts to a stand-off between sellers buyers. The latter are in the field in con erable numbers but growers may be like unto the burnt child which ever therea dreaded fire. In a general way it wo seem that sellers are inclined to hold $20 per cwt. and it was reported that few sales were made at that price. A si sale was said to have been at $22 per One crop of Havana was contracted at and 8 per cwt. It is well that growers astutely holding off, for surely they more chance to gain than to lose. With exception of drouth in some localities growing crop is progressing quite well. close of August will find practically the crop topped but in some instances it impossible to get more than eight to tw leaves as compared with fourteen to eight in the earlier and better plantings. It well to remember that the more prom tobacco is topped the better will be growth as the growth which would con ute to the formation of a worthless head will then go to the development plant and consequent better quality greater weight. Suckers, too, should removed as soon as large enough to seized as they, true to name, suck the life sap from the maturing crop. The tice of divesting seed heads of straggling per leaves is not to be commended but be harmless. It is better to leave the p intact as pruning may stunt it and prev perfect development.—H. E. Tweed, Aug.

Berkshires of Size and Quality
The boar, Majestic Mammoth 229500, weighs 407 lbs. at 7 months old was bred and grown by us. When you want the best and want them big, write to—
C. H. Carter, Whitguern Farm, West Chester, Pa.

HAMPSHIRES
Bred gilts for fall farrow, pigs any age, free circular. Registered Guernsey Bulls, from $35 up.
Locust Lawn Farm
Bird-In-Hand.
Box 2, Lanc. Co., Pa.

Reg. P. Chinas, Berkshires, C. Whites. Large strain, all ages, mated not akin. 8 weeks pigs, bred sows, service boars, Collie and Beagle dogs. Grade Guernsey calves and poultry.
P. F. HAMILTON, COCHRANVILLE, PA.

Big Type Registered Berkshires $15.00 for pigs from 500 & 600 lb. Sows. Big litters. A few service boars. Write for prices, pedigrees and photos. C. C. KEISER, Marietta, Lancaster Co., Pa.

Duroc Jerseys of size and quality for profit. Any age. Fall pigs $9 and up. H. ED. BARCLAY, R. D. 4, SOMERSET, PA.

Berkshires large type yfellows. Masterpiece-Long-Fellow blood lines. Also Reg. Holstein-Friesian bull calves, King Segis & De Kol 2nd, Butter Boy 3rd breeding. Jno. C. Bream, Gettysburg, Pa.

Dairy Cattle

Spot Farm Holsteins $15 to $20
For high grade calves either sex express paid in lots of 5. 40 large high grade and 12 registered Holstein cows due in Aug. and Sept. 35 registered heifers 1 to 2 years old. 40 high grade heifers, and registered bulls.
JOHN C. REAGAN, Tully, N. Y.

"NO HORNS" Naturally Polled Holstein-Friesian
bull calves, sired by a son of the World's Record senior 4 yr. old, 1294.7 lb. butter in 365 days, at $100 and up. Descriptive catalog for stamp.
GEO. E STEVENSON & SONS, Clarks Summit, Pa.

High Grade Holstein Calves
Either sex, beautifully marked, $20 each. Reg. Holstein cows, heifer and bull calves, shipped anywhere.
F. H. WOOD, BOX A, CORTLAND, N. Y.

Holstein Sale Sept. 20
of registered stock. Write for catalog.
BOB SEEDS, BIRMINGHAM, PA.

Holsteins Herd of 35 cows, 15 heifers, 5 bulls to choose from. Half grade and half registered. All have a 3-year cow testing association record for milk production. Some with A. R. O. records. Plumlyn Farm, Fairview Village, Pa. (near Norristown)

Reg. Holstein bull calf, born March 31st, 1917. Dam, a fine cow, has just made 17 lb. 3 year old record. Sire is son of 23 lb. cow: price right. Inquire of J. B. Winkelblech, Lewisburg, Pa.

Belle Alto Guernseys Registered. Promising young bulls for sale, 1 to 6 mos. at very reasonable prices. M. H. McCallum, Mgr. Belle Alto Farm, Wernersville, Pa.

Reg. Holsteins Pair of young cows. One has creditable A.R.O. record. Both are big cows and good producers. Bred and priced right. WILLIAM S. KER, R. D. 9, CARLISLE, PA.

Ayrshires young A.R. cows, bull and heifer calves. Best blood lines, reasonable prices. Inspection invited. Robert Templeton & Son, Ulster, Pa.

Grade Guernsey Heifers 12 head for sale. 6 to 20 months old. Call or write. Jos. G. Kennel, Atglen, Pa.

Jersey Calves Both sexes. Fine stock of the most noted pedigrees in the world. FRED G. W. RUNK, ALLENTOWN, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Registered Holstein bull calves from a ton show bull and heavy milking dams. Best breeding. Write L. V. OTTO, CARLISLE, PENNA.

Poultry

S. C. W. Leghorns "Tom Barron Strain." The large kind, prolific layers. Breeding stock for sale. 1 1-2 lb. cockerels from imported high record sires, $1.25 each, five or more $1 each. These cockerels will cost you $10 next season. Order from adv. IVYWOOD POULTRY FARM, Box 71 A. Avondale, Chester Co., Pa.

S. C. White Leghorn baby chix, pullets, hatching eggs, 250 egg strain. Long deep bodies, yellow legs & beaks & large rod to p-over combs. A. R. GRAVES, R. D. 2, REXVILLE, N. Y.

S. C. White Leghorn yearling hens and cockerels for sale. Tom Barron Strain. Prices low on these wonderful layers. C. P. SHIREY, STEWARTSTOWN, PA.

S. C. White Leghorns Eggs for hatching. Send for catalog describing our mating for this season. Fertility guaranteed. Hidri View Farm, Box 17, Mt. Bethel, Pa.

Chicks S. C. W. Leghorns 6c & up. Money refunded for dead chicks. Circular free. W. A. LAUVER, McAlisterville, Pa.

Mammoth Pekin Duck & Ducklings ALDHAM POULTRY FARM, R 30, Phoenixville, Pa.

White Rock Pullets Early hatch $1.25 each this month only. MOHEGAN FARM, Box M, Peekskill, N. Y.

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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Umbilical Hernia.—I have a mare colt that is two months old. There is an enlargement which hangs down 1½ inches below navel which is soft and about the size of a hen's egg. P. B. W., Big Flats, N. Y.—Your filly suffers from navel rupture. In order to effect a cure she should be subjected to a surgical operation, but you had better leave her alone until the middle of next November. There is no particular danger in this operation and on a colt like her, the operation, if properly done, is usually successful.

Kidney Trouble. — We have been readers of Pennsylvania Farmer for a number of years. We find lots of valuable information in it of different kinds. Not noticing in the veterinary column a case similar to mine, have decided to write. I have a 14-year-old horse which I raised and which has always been used on the farm. This horse is inclined to pass urine too often, but before doing so hesitates and passes a little water at a time. His urine is very light colored most of the time. I should like to know what to give him to clear up this trouble. I wrote once before about this same horse ailment. You prescribed for him and he got well, but I have lost the directions. H. C. H., Pittsfield, Pa. Give him a teaspoonful of acetate of potash and forty drops of fluid extract nux vomica at a dose in feed or drinking water, twice a day for ten days, then give him an occasional dose and I believe he will be well.

Vicious Cow.—I have a cow, two years old, that is inclined to kick when either sucked by her calf or milked by a person. We regard her as a very gentle animal in every other way. J. K., Calverton, N. Y.—If allowed to eat when milked she might remain quiet. A surcingle placed around her flanks, buckled fairly snug will quiet her, or hopple her hind legs together above hock joint, leaving about eight inches between the two legs.

Influenza.—We had two white rabbits, one male and one female. The female died. I was inclined to think that she suffered from blood poison as one eye was swollen, discharged matter and while breathing blowed as tho she had throat trouble. Since the female died the male has taken sick showing similar symptoms. What do you believe ailed the one that died and what had I better do for the sick male? R. H., Gilbert, Pa.—I am inclined to believe these cases are influenza. Rub the throat with camphorated oil and dissolve 15 grains boric acid in one ounce of clean boiled water. Drop some of this lotion into the eye three times a day. Feed him whatever kind of food he craves, as good nursing will do him more good than drugs.

Sore Shoulder.—I have a horse that has been troubled with sore shoulder for the past ninety days. I have succeeded in healing it. The shoulder is inclined to be tender and I would like to know what to apply that will have a tendency to toughen it. A. E. L., Mullica Hill, N. J.—Dissolve ¼ lb. sugar of lead, three ounces sulphate of zinc and four ounces of tannic acid in a gallon of clean, boiled water and apply to tender shoulders three times a day. It is possible that the collar you use is either too large or too small. A great many collars are too wide and not deep enough.

Thoroughpin—Bog Spavin.—I have a horse that is troubled with thoroughpin and bog spavin. I would like to know how to treat a case of this kind. W. H. A., New Germantown, Pa.—If the horse is not lame and his work is required, better postpone treatment until cool weather. Then apply equal parts tincture iodine and camphorated oil daily, clip off hair and apply one part powdered cantharides and four parts lard, twice a month. A chronic ailment of this kind is incurable so far as the removal of the puffy swelling is concerned.

SURVEY OF FOOD SUPPLIES ON FARMS

The U. S. Bureau of Crop Estimates will conduct a country-wide canvass of important farm products on farms of the country that is food or convertible into food. Thirty-five thousand picked volunteers from its corps of 150,000 crop correspondents will do the work. Each of the field representatives, a farmer himself and thoroly familiar with farm conditions in his community, will make a report of food stocks, including meat animals and crops on his farm and each of these representatives will be supplied with ten extra schedules of inquiry which he will distribute among his neighbors, for reports upon their respective farms. From the 385,000 reports thus obtained, the experts of the Bureau, knowing the total number of farms in the United States, will make final estimates for the farms of the country. It is believed that this estimate will be within a few percent of actual food stocks. The farm survey will begin at once. A second survey about November 1, similarly conducted, will cover the fall harvests.

DAIRY MARKETING CONFERENCE

A National Dairy Marketing Conference will be held on Tuesday, October 23, at 10 A. M., at the National Dairy Show. Meeting will be held in Memorial Hall, Columbus, O., under the auspices of the National Federation of Milk Producers. A program has been arranged by the Bureau of Markets of the U. S. Department of Agriculture in co-operation with officials of the National Dairy Show Association and the National Federation of Milk Producers. For copy of the printed program address Secretary W. E. Skinner, in care of the National Dairy Show, Columbus, O. This will be a meeting for dairy farmers, distributors and consumers of dairy products.

COUNTY NOTES

Union Co., Pa., (C) Aug. 16.—Wet weather has hindered cutting and storing oats which are a good crop. Plowing wheat and oats stubble for new wheat is being done when ground is dry enough. Corn and potatoes are doing very well and promising big crops. Some corn has been blown over; where planted thick for silage much of it can not be cut with a binder. Pastures are good and some clover fields have a fine growth of second crop which may make seed. Apples will be better than half a crop and plums a big crops generally.—J. N. Glover.

Lebanon Co., Pa., (S.E.) Aug. 15.—Weather is fair and pleasant with cool nights. Corn is looking fine and will be a bumper crop. Tobacco is growing fast but is much damaged by worms. Some growers sprayed with paris green and have had no trouble with worms. One sale was made last week at $25 per cwt. Wheat and oats are practically all harvested. Oats were an average crop while wheat was slightly below average. Many farmers are threshing their oats this week. Help, however, is scarce and hard to get with farmers paying $3 a day for threshing. Hens are starting to molt and the egg yield is suffering. Many poultry raisers are selling part or all of their flocks on account of the high prices of grain. Wheat is $2.20; corn, $2.30; oats, $1 bu. Eggs, 34c doz; butter, 45c lb. "Our folks" are busy hauling manure and plowing wheat land.—Leonard F. Strickler.

Lancaster Co., Pa., (S.E.) Aug. 16.—Weather very warm, with occasional thunder showers. Where rain has not fallen recently, the ground is very dry and hard. While the season has been very late, the average condition of all crops is very good. Threshing machines have started, and some farmers are reporting a yield of 35 to 40 bushels per acre. Corn and potatoes both promise good crops. Tobacco is doing well. A few patches have been cut but majority of the crop will be late. Buyers are in the field offering 20 cents per lb. but the farmers are holding for higher prices. Wheat is worth $2.10; corn, $1.90; oats, 65 cents; hay, $18; straw, $11. Farmers are very busy and help is scarce.—J. Henry Haverstick.

Rations for Dairy Cows.—Bulletin 90 of the Storrs Experiment Station discusses Selecting Rations for Dairy Cows. It is mailed from the station named at Storrs, Conn.

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A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.
As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
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Swine

Chester Whites & Berkshires pigs 6 & 8 weeks old. 2 Chester White Boars 4 mos. Write your wants. I. R. TANGER, YORK SPRINGS, PA.

Mulefoot Hogs oldest breeder in the state. Pedigreed stock for sale. SAMUEL JOHNS, Wilmington, Ohio. Sec. D.

Reg. O. I. C. "Ferndale Stock Farm," Salem, Ind. Big type. Prices reasonable. Prize blood. M. U. JOHNSON, ASHTABULA, OHIO.

Reg. O. I. C. Boar, weight 350; a good sire of large litters. Also May farrowed pigs. L. F. NICHOLAS, Mt. Bethel, Pa.

Berkshires high class pigs for sale. Aug. & Sept.—Masterpiece blood cheap. W. J. Mc CONNELL, OXFORD, PA.

LARGE BERKSHIRES AT HIGHWOOD Service boars, bred sows, pigs all ages. H. C. & H. B. HARPENDING, Box 45, Dundee, N.Y.

High Grade Reg. Berkshires for sale. Satisfaction guaranteed or no pay. W. S. JOHNSON, BERWICK, PA.

CHESTER WHITES and POLAND CHINAS All ages. Registered free. Jersey bulls. J. A. BOAK, ROUTE 4, NEWCASTLE, PA.

Reg. O. I. C. Swine Spring pigs and bred gilts. HIDRI VIEW FARM, Mt. BETHEL, PA.

BIG TYPE POLAND-CHINAS. Choice pigs, either sex. Prolific, growthy, easy feeders. Price right. O. C. POWELL, Ada, Ohio.

Durocs A choice 2 yr. old service boar; also Spring boars & will be bred for Mar., Apr. & May. Write your wants. Ira D. Jackson, R.10, Vanwert, O.

O.I.C.& Chester White Spring boars & gilts reg. free; Satisfaction & safe del. guar. JOHN L. VAN HORN, TROY, PENNA.

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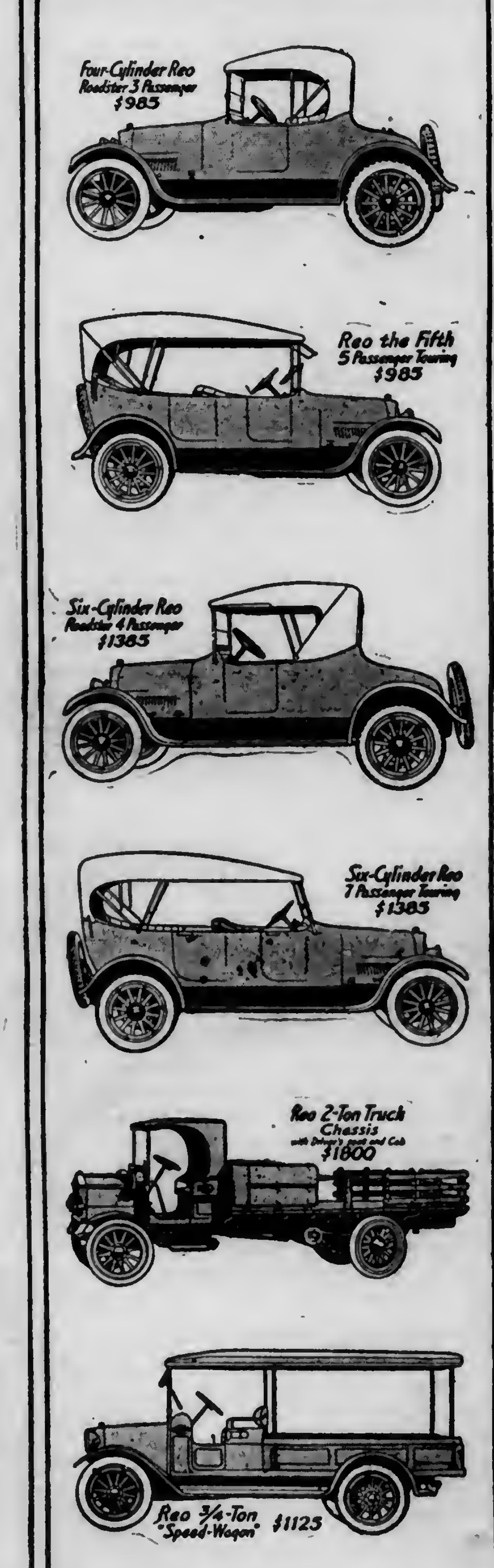
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REO THE FIFTH, "The Incomparable Four," is America's most famous automobile. Standard in practically its present form for now eight seasons—"going on nine." At its present price, $985, this car is verily "A gold dollar for ninety cents."

TO REO THE FIFTH more than to any other, is due the movement that is now so apparent—the return to the Four-cylinder type in all cars listing at less than $1000.

THE FOUR IS THE ULTIMATE type in that price class. Economy of upkeep, as demonstrated by this Reo model, has done much to prove the superiority and ruggedness and economy of the Four in that class of car where the buyer must count the cost and yet demands the service and the roominess.

THE FOUR ROADSTER is the handsomest model of its type you'll see on the road—at any price. And, for the present, you can get it for $985 and freight from the factory.

OF THE SIX ROADSTER the same is true, plus the extra luxury it affords the owner at the extra cost—$1385 f. o. b. Lansing.

THESE TWO ROADSTERS are of similar design and identical construction, and are conceded to be the handsomest cars of the type—priee aside.

FOR THE FAMILY that needs a car of greater capacity than five and yet of moderate upkeep, the Reo Six Touring Car—also $1385 for the present—knows no equal.

NO MATTER WHAT YOU PAY you cannot obtain a 7-passenger car of better design; one that represents sounder engineering; more experience; better materials and workmanship than enter into the making of this Reo Six.

THAT'S A BROAD CLAIM, but we make it unhesitatingly—and you know that the word of Reo passes at par everywhere.

OF THE REO MOTOR TRUCKS the same is true. The ¾-Ton "Hurry Up" Wagon at $1,125 (chassis $1050); and the famous 2-Ton Reo "Heavy Duty" Truck at $1800—each is the leader in its own class—demand greatly in excess of factory capacity.

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THAT'S WHY WE SAY "Reo Quality is Uniform in all Reo Models," the uniform over demand for all Reo models justifies the statement.

ORDER NOW if you'd have your Reo soon. Present prices obtain only from day to day, and are subject to increase without notice.

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By Wm. T. Creasy

PENNSYLVANIA

We are engaged in the greatest war this nation has ever known. Was has been waged in foreign lands for over three years with no practical advantage to either side. It is not a war of nations, but a world war. Nearly every day brings new nations into the conflict.

Ex-Ambassador Gerard, whom we must consider good authority, in his first letter to the newspapers made several statements which we will do well to remember. He says: "Americans do not grasp either the magnitude or the importance of this war. Nor should anyone believe that Germany will break under starvation or make peace because of revolution. There is far greater danger of the starvation of the Allies than the starvation of the Germans."

To this point of feeding the Allies and ourselves I want to call attention, and the relation that the farmer will play in this horrible war. Starvation may not only threaten our Allies, but our own people, even in this land of plenty. This is acknowledged by the thinkers of our country, and we have no better proof of it than the wholesale advice given now to farmers.

George Ade says: "The world is roughly divided into two classes—those who saw wood, and those who sit on the fence and tell others how to saw wood." Of all the years when our advisers sit on the fence and give instruction to the farmer, this year takes the cake. It has become disgusting to the farmer, who after years of experience is doing his best, to listen to some of the "bunk" that is being passed off on him. We are told to "speed up". The fact of the business is that we have been speeding up for years. The trouble is that the other fellow must "waken up". He has been asleep.

Since wheat is no longer selling at 50 cents a bushel and potatoes at 25 cents, there has been an awakening and the farmer's business is being discussed on every side. When war was declared, the farmer was appealed to—to increase his crops. He has responded nobly. With a favorable season the present outlook is that we will be blest with a good harvest. But this is not due altogether to our good farming, because our agriculture has been somewhat on the mining plan. The splendid weather conditions made possible our increased crop production, while our farming has not done so much toward soil conservation for future crops, and there is a reason—the lack of help.

Conservation and efficiency are the watchwords on all sides. For over 40 years the Germans have been preparing for this war. Every energy was turned in this direction. Science was cultivated to its highest perfection. A spy system not equalled by any country in the world was worked out; in fact, everything was made subservient to this one great purpose—war. Even the statesmanship and the religion of the ruling classes in Germany have given way to science. It looks to the layman observer that this war was not really started by the jealousies of a few women in the Balkan states, but that the Kaiser who had his country overloaded with a military system, loading down the people with burdens of taxation, and the rise of socialism, made it necessary for him, in order to save his crown, to start a war.

The conservation and efficiency of our nation must be carefully and intelligently manned. It is of the greatest importance that several of our industries shall not be handicapped by lack of labor, and the greatest and basic one of these is agriculture, and, strange to say, it seems to get the least consideration.

In the government and in the war councils of the nation we find no practical representative of the farming class. The treatment that the farmer has so far received clearly proves that those in authority consider him "the hewer of wood and the drawer of water." The only exception to this is that a few days ago the food administration did a wise thing in appointing on its Board a few practical farmers.

THE DAY OF REST AFTER A BUSY HARVEST.

The great question that confronts agriculture is labor, and unless this is looked after, this country will be in dire distress, not only in raising food for our Allies but for ourselves and our soldiers. Every industry is going to the farm and taking away its labor. Not only is agriculture to furnish all this additional labor needed in the factories and on railroads, but it is to put its experienced workmen in the trenches in foreign lands, and when a protest against this is raised, the farmer boy is called a "slacker" Let me say that the farmer boy has as much patriotism and love of country as has any other class. And it is not always the best patriot that does the loudest shouting.

Patriotism is defined as love of country; devotion to the welfare of one's country; the passion of inspiring one to serve one's country. The question to be decided then is where can the farmer boy best serve his country; in the trenches, or on the farm? They say it takes three experienced men back home to keep one going in the trenches. Now if they take the skilled farmer boy, and in his place put two inexperienced men, instead of having three men to supply the one man in the trench you require six men back home. Is this statesmanship? Is it patriotism? In other words, can we afford to waste energy in this way? Where will we be, under such a management of affairs, should this war last any length of time? Can we produce the food necessary, at reasonable prices, for our people, our armies and our Allies? I would say no.

The different farm organizations in memorializing the President the latter part of June said:

"There is now not only a lack of farm laborers, but of farmers as well, so that thousands of acres remain untilled, and great numbers of farms are not tilled so as to yield up to their maximum production.

"This condition has been brought about by our young people, as well as older ones, leaving the farms for more remunerative positions. This has been especially true the last few years. The success of this war will depend as much on the men behind the plow as on the men behind the guns. We are in duty bound not only to feed our own people but to feed our allies, and also make reasonable allowance for the food that may be destroyed.

"For these and many other reasons we believe that if agriculture is to be successfully organized, and the crops produced and harvested, it is of vital importance that our young farmers and trained farm help be exempted from military service.

"Great Britain, in the beginning of the war, made the mistake in regard to men employed in agriculture, of taking them from the farms, and to this mistake is due, in part, the food crisis which is now upon her. The young, active men were very generally taken from the farms and put into training camps. The farmers there tried to readjust things by the employment of women, especially on dairy and truck farms. It is estimated that at least a million women are actively engaged in work in Great Britain, several hundred thousand of them at farm labor. As the season advanced, however, it was discovered that the untrained farm help could not take care of the crops, and it became necessary to go over into the trenches in France and bring back thousands of skilled agricultural laborers.

"The United States should learn from this experience of Great Britain with regard to the men on the farms. If we fail to raise large crops this year and next, the failure will be in large measure due to the lack of competent help. From all over the country comes the story that the increased acreage of corn and potatoes is intensifying the labor trouble, for both of these crops must be tended thruout the growing season. The vigorous campaign which has been waged to increase our crops necessarily means increased labor—and this cannot be supplied by men unskilled in agricultural work."

What is given here as reflecting the conditions last June is equally true today and is likely to be doubly true next spring. While there are agencies training city boys to assist in farming, the work so done, which certainly is very commendatory, is only "a drop in the bucket".

I have visited many sections of the country. I have talked with many farmers. I have had a lifetime of experience not only in farm work but at the head of farm organizations. I am familiar with the details of agriculture, and I believe I can truthfully say that I have some first-hand knowledge of agriculture and its requirements. And I want to cite some instances which have lately come to my notice to prove the seriousness of labor shortage on the farm. In one fertile valley I have found some farms deserted and only half enough help to run the balance. In another section I found the wife, with her little boy not yet eight years old, assisting the husband in running a four-horse-farm. This farm and many others like it should have another man, with quite an additional force of day help.

These are examples of a very large number of farms in different sections of this country on which mixed farming is carried on. I have asked farmers what of next year's crop? Can you increase your acreage? The answer is generally no. Many say we must reduce it because of the lack of help. To plow and sow and not give the proper tillage will produce only a light crop at best, and should there be adverse weather conditions, the cultivation only done by halves would result in entire failure. Help is too scarce now, and we can not hold out to work as hard and make the long days as we have been obliged to make this summer.

My attention has been called to a section with which I am very familiar and I find that on 25 adjoining farms are 10 less work hands than there were three years ago. The comparison was made by taking the number of males on these farms three years ago and the number at present. This does not include those that are conscripted for the army. Should this comparison hold good for the nation, and I believe it is nearly the average condition, there has been taken from the [illegible] farms over 2,500,000 farm workers in the past three years. Can the rural sections stand any further drain? Have they not already given more than their share of men to the cause of war? The question, therefore, is: Should there be a further draft on our active and experienced help? Would such action show good statesmanship? Would it not be wiser to issue an order that they shall remain on the farms during the war and make reports of their work?

It is argued by some that these experienced and skilled workers can be replaced. You farmers have had sufficient experience to know that on an average, counting the longer hours made, it requires two inexperienced men to do what one of these young men can do. Hon. Charles E. Hughes, late candidate for the Presidency, is quoted as saying: "All men of military age belonging to these classes, engineers and last year students of technical schools and colleges, physicians, surgeons and medical students in their last year in medical schools, and dairy farmers, would be more valuable in their present occupations than in the army, for the present at least." The census reports shows that 80 percent of the farms in this country have dairying.

You may ask how shall other necessary occupations get their help? I will answer. A number of business can be dispensed with and must be if this war is to be managed successfully. Stop bothering others for what you can do for yourself. Do as the farmer and his wife have always done — serve yourself. We will soon be brought face to face with some of these conditions.

It must be borne in mind that agriculture is different from any other occupation in this country, for the reason that the help in nearly all cases must be taken into the family. Will the wife of the American farmer agree to that? What has been the result where tried? It was a failure in England. Is it fair to take away the farmer's help and then ask that strangers shall be put in their places? If fair, I doubt very much whether the help could be secured. Shall we ask the wife to take the stranger in the family? Is it not a fact that the farmer's wife is overworked and has already more than her share of cares? Do our advisers think that the farmer's wife shall have additional cares? The poet truthfully says:

"The faithful wife from sun to sun,
Takes her burden up that's never done;
There is no rest, there is no play,
For the good of her house she must work away;
For to mend the frock,
For to knit the sock,
For the cradle to rock,
All for the good of the home.

"When Autumn is here with its chilling blast,
The farmer gathers his crops at last;

. . . .

"But the willing wife, till life's closing day,
Is the children's guide, the husband's stay;
From day to day she has done her best,
Until death alone can give her rest."

Ah! That farmer's wife. Shall we not accord to her the right to have a say in such vital matters? Shall we increase her work? Do we forget that she more often makes 16 hours a day than less? Shall we increase her burdens, or shall we look at the great work she is doing, and help her? Yes, help the nation by helping her.

In conclusion, let me say that when selective conscription was being discussed in Congress, the main argument in favor of this method of raising an army was that every one would be drafted into the service where he would be the most valuable. I believe Congress and those in power were honest in their statements, and that it was not, and is not now, the intention to violate this pledge given to the American people. I believe the government is sufficiently informed and capable of carrying out the original intention of the act. It was known at the time, and is a well-established fact, that agriculture needs more help, and that asking for exemption for experienced farm help is not only in line with the act, but a patriotic duty. The farmer boy is just as patriotic in asking for exemption, providing he can show that he is doing his duty at his occupation, as are those who enter the army. He is indispensable and can not be replaced. Remember full granaries mean a full war chest.

Condensed from address delivered at Cecil County Farmers' Day meeting, Port Deposit, Md., August 18.

(Note.—We believe farmers will approve of these sentiments. Many young farmers have felt uncertain as to their duty under the circumstances and because of the emphatic and harsh declarations of the newspapers concerning the duty of able bodied men in relation to military affairs.)

PLOWING TWO DEEP FURROWS WITH A TRACTOR.

What Does it Cost to Grow Wheat?

Costs per Bushel Compared for 1915 and 1917

By W. H. Rothenberger

MONTGOMERY CO., PA.

Wheat is one of our most important farm crops. It is used for both human and animal food. It is easily stored or shipped. It can be grown in such a great variety of soils and climates and it fits so well into our rotations, for it can be sown after crops like oats, soybeans, corn, etc., have been harvested. And it also serves as a nurse crop for our grass seeds to get their start. On 378 Chester County farms operated by their owners, it is the source of 8.5 percent of the farm income, according to the United States Department of Agriculture Bulletin 341; being surpassed only by the dairy products, hay and potatoes. It occupies 18.2 percent of the total area of crops. Exclusive of the newly settled regions it has been probably grown so extensively not because of its great monetary returns but because it fitted so well into our systems of farm management under such varied conditions.

Following is a statement of cost of growing wheat on our farm for the two years, 1917 and 1915;

	1917	1915
Seed	$3.11	$2.20
150 pounds of fertilizer	1.87	1.57
Manure	4.29	3.43
Use of land	2.00	2.00
Use of buildings	.80	.80
Man labor	2.80	2.20
Horse labor	7.80	5.80
Equipment labor	4.29	3.78
Five percent interest	.67	.55
Twine, electric power, etc.	.58	.36
Total	$28.21	$22.69
Value of straw	$ 3.50	$ 3.50
Net cost of wheat	$24.71	$19.19

Up until this year I do not consider that wheat has been a very profitable crop in itself, except on the richer soils. The table gives the cost of producing an acre of wheat, it being the average of 28 acres in 1917 and 31 acres in 1915. Two bushels of seed and 150 pounds of fertilizer were used per acre. It required about 14 hours of man labor and 39 hours of horse and equipment labor to prepare the soil, do the seeding and the harvesting. Equipment labor to grow grain is higher than to grow most other crops because most of it is expensive and then is used only a few days in a year. The tillage tools are the same as for any other crop, but the cultivator and harvester for corn or the mower, rake and loader for hay are low in cost as compared with the grain drill with fertilizer attachment, the binder and the thrasher. Interest must be charged because the seed, fertilizer and part of the labor is paid for nine months before there are any returns.

The total cost of producing one acre this year was $28.21. By allowing $3.50 for the straw, the cost of the wheat would be $24.71. The average yield was 14 bushels, which would mean that it cost $1.77 to produce one bushel. The yield was low due to unfavorable weather and soil conditions, but is about up to the average of the country. Since this is also the average yield in general, it shows that most of the wheat is produced under just such conditions and at about similar cost. So these figures must be taken instead of results upon uncommonly fertile soil.

It would be possible to greatly increase the average yield by the application of more fertilizer, more careful tillage, etc., and if a profitable price were guaranteed, the farmer would see to it that the "goods" would be produced. But as it has been up to this time, when the producer was not consulted as to the price but made a prey to the speculator, he did not feel justified in increasing the cost of growing the crop. On the average farm, to increase production would also mean more money spent for fertilizer, with more time needed for hauling the fertilizer, seeding, cutting, shocking, hauling in, thrashing, etc; more time and more money invested, together with a greater loss in case of unfavorable weather during harvest. So, ordinarily, the higher cost would keep up to any increase in returns. If a reasonable price is assured for the crop, however, before it is sown, there is no doubt that the yield per acre will be greatly increased all over the country.

Now what do we deserve to get for our 1917 wheat? With the actual cost of production at $1.77 per bushel, surely no one can offer any just objection if the farmer asks $1.95 per bushel or a 10 percent profit. It is no more than munition factories and other industries which furnish materials to the government charge, and they consider themselves ultra patriotic at that. And is the farmer not entitled to this 10 percent with all the risk he is taking? The wheat crop is exposed to the drouth of the fall, to the hard, frozen ground of the winter, to the alternate freezing and thawing of the spring, with subsequent heaving, and to the possibility of rains or hail during harvest, with sprouted and shattered grain. Besides this, the Hessian fly, smut and rust are busy in the field, and the grain moth, weevils and mice ready to attack it when placed in storage. To all of these is added the additional risk of destruction by fire. If the farmer is not entitled to this profit he had better work as a hired man who has no risk, no capital invested and is sure of his pay.

Can the farmer be called unpatriotic if he asks $2 or more? In other years he parted with many a bushel at less than cost of production and no one offered to reward or praise him for his generosity. He could get no more than was offered him, so he had to be satisfied. In this year of great demand for grain and with a short crop, surely things are not overbalanced in favor of the producer if he gets a little more than what is considered just a paying profit. He would have to get considerably more than $2 per bushel to pay a dividend of 15 to 40 percent, or even more on the business as do some milk companies, railroads and the big corporations.

It may be of interest to compare the cost of producing wheat this year with 1915. The table shows a net cost of $19.19 per acre in 1915. This received practically similar treatment with the same amount of manure and fertilizer as did this year's crop, so it will be seen that the cost of production increased 29 percent. Indications are that the cost of growing the 1918 crop will be far in advance of this year's crop. They are asking 28 percent more for a lower grade of fertilizer for this fall's goods than last and it looks as if the price of man, horse and equipment labor would not be any lower.—W. H. Rothenberger, Montgomery Co., Pa.

Another Farmer's Figures

Where diversified farming is practiced, and where the growing of wheat is not a specialty, it is rather a difficult proposition to make a fairly accurate estimate of the cost of production. One thing is self evident, the prices of almost everything that pertains to producing wheat have more than doubled in value the last year. With this, the season has been an abnormal one. The excessive rains have interferred with farm operations and materially reduced the net returns. I have submitted what I believe to be a fair estimate of cost of production of an acre of wheat with present conditions.

Plowing	$ 4.00
Disking	.80
Harrowing, three times	2.00
Rolling, twice	.75
Hauling fertilizer	.25
Applying fertilizer	.25
Manure, 2 tons @ $2.50—¼ of the amount applied in a 4-year rotation	5.00
Cleaning seed	1.00
Treating seed	.75
Drilling	.75
Cutting	1.00
Shocking	.60
Hauling to barn	2.00
Raking field	.25
Threshing labor	1.25
Hauling feed	.15
Labor	1.50
Hauling to mill	.85
Seed, 2 bushels, @ $3	6.00
Fertilizer, 300 pounds, @ $1.45 per cwt.	4.35
Formaline, for treating seed	.35
Twine, 3½ pounds @ 19c lb.	.67
Threshing, 25 bushels, 6c per bushel	1.50
Fuel	.25
Storage	.35
Taxes	1.45
Interest on investment	3.00
Insurance	.50
Depreciation	2.00
Use of sacks for hauling to mill	.05
Total cost of producing and marketing one acre of wheat	$43.57
Cost per bushel	1.74

CONCRETE BLOCK GARAGE WITH FIRE-PROOF ROOF.

In computing the figures we find the cost of production is $1.74 per bushel. This I believe to be conservative. The law of supply and demand should control prices of all commodities. But unfortunately the unseen hand of the speculator is a great factor in controlling the market. Since the government has taken over the fixing of prices on some of the products consumed, the farmer is in a quandry to know what to do about marketing his wheat crop. At the present time many of the dealers actually refuse to name a price. If these conditions continue for a while longer, there will be little incentive to increase the acreage sown to wheat this fall.

It may be of some interest to know what I received for the wheat per bushel sold from my farm since 1888. Following are our prices for the last 29 years:

1888	$ .85	1903	$ .85
1889	.81	1904	1.04
1890	.98	1905	.78
1891	.96	1906	.73
1892	.76	1907	.80
1893	.62	1908	.96
*1894	.55	1909	1.04
1895	.65	1910	.92
1896	.68	1911	.70
1897	.80	1912	.94
1898	.87	1913	.90
1899	.69	1914	1.02
1900	.70	1915	1.07
1901	.72	1916	1.40
1902	.68		

* Sold 100 bushels at 55 cents and had the remainder ground and fed to hogs.

The cost of production in 1916 was about $1.05 per bushel. It will be noted that the money received from the wheat crop in the last 29 years was not conducive to making bloated bond holders of the farmers.—J. Aldus Herr, Lancaster Co., Pa.

By the Way

By

Father Penn

I visited a very much discouraged farmer not long ago. He had worked hard and long all the fore part of the season to get his crops planted, only to find at this season little prospect of profitable yields. The trouble is this: His farm is quite level and the soil rather heavy with still heavier subsoil. The extremely wet weather last spring retarded the work of planting, and injured much of the seed after it was planted. Proper cultivation could not be given and weeds grew rapidly. Then the other of the two things to be feared in connection with such soil—dry weather—set in, the soil baked and the outlook for expenses, to say nothing of profits is, indeed, slim. Another unfavorable factor in this soil is acidity.

The chief needs of all such farms, and there are many of them, are drainage and lime; efforts at profitable farming are in vain until the surplus water can be speedily removed, and the soil is made sweet or at least neutral by the application of lime in some form. Life is too short and the needs are too great to waste effort in trying to do the impossible. While the initial cost is often a serious consideration with a man of limited means, yet, if other factors are desirable, it is good business to borrow money for such improvements rather than to spend a life in unrequitted toil.

The past season in many sections was unusual in that the amount and frequency of rains was far beyond the normal. This caused the failure of many crops which would have been successful in normal seasons. It has been found that an excessive amount of water in the soil, even for one season, increases the acidity of the soil. This fact should induce farmers to apply lime without fail in order to provide for next year's crops.

COMMENTS AND QUERIES

A subscriber in Indiana County, Pennsylvania, wants to know what we would advise him to do about buying a farm which he has in view. He gives the following information: Farm contains 100 acres, all cleared, fairly good land. Price, $4,500. He can pay down $1,000; balance on time at 5 percent; has nine head of cattle, all machinery necessary, ambition, and five small children.

The information is good so far as it goes, but there is not enough of it to enable us to give advice. However, our opinion would be that it is a safe proposition on which to go ahead, if the subscriber is a good, wide-awake farmer; if his wife is equally able and ambitious; if the farm is reasonably near a railroad, good markets, good roads, schools, etc.; if the soil is adapted to making a specialty of some product so as to provide a sufficient and steady income; if the soil is such as may be improved by manure, fertilizers, lime and good methods, and if the farmer may feel assured that he will not be hurried for payment of balance of purchase price.

These are some things which one must consider. They should be taken up separately and if any one of them cannot be answered in the affirmative our friend had better turn down the proposition. If he can say yes to all of them, we believe he can succeed.

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FARM LABOR

The article on first page of this issue discusses the real need of exempting farm labor from immediate army service. Under date of August 30, the President announced that it would be impossible to exempt farmers as a class. He said that "class exemption would lead to many difficulties and to many heart burnings." It is easily evident that exemption of entire classes of any line of industry would entail dangerous complications; but this is a matter of leaving a supply of labor to meet the demands that will be made upon the farmer next year. It is not a question of exempting any class or any individual from service, but it is a question of using all classes and all members of classes in the lines of work that will be of greatest value to the country in winning the war. If the need of increased food crops is as great as we are told it is (and no one doubts that need) then an adequate supply of farm labor is the first requisite to the production of the increased supply. It is evident that the authorities are attempting to handle the entire question with fairness and justice to all; but if farmers are to have their needs considered they must make it plain that the lack of labor is the most important limiting factor in their work, and make plain just what they are going to need in the way of labor for next year's crops.

* * *

POTATO SUPPLIES

As it becomes evident that the potato crop is going to be large and prices proportionately low, a flood of instruction is being turned loose on best ways of storing and preserving potatoes. Supplementing this there is talk of educational campaigns instructing consumers in new ways of using potatoes. All of this is needed. If late crop reports are reliable there will be a crop that will force prices way below the production costs. It is by no means established that the reports are correct, but the present prospects are not rosy for the farmers who paid high prices for seed, fertilizers and labor last spring and who still have the heavy expense of digging and marketing. Such farmers are now wondering why something is not being done in the development of potato drying processes, such as have been used in some of the old countries for many years. We are told that Germany has developed the drying or dehydrating processes to a point where large quantities of potatoes are used every year and put in condition for indefinite storing, and later used as human food and as stock feeds. The establishment of such plants has enabled Germany to care for her immense potato crops and add to her supply of foods. If the process is so successful there it should be worth the effort of trial here. It would seem that our experiment stations and more particularly our federal department of agriculture could be of very great assistance in some helpful experimental and demonstration work in this line.

* * *

PRICE-FIXING

While almost every business is making a show of approval of the government's intention to control prices, nevertheless there is much uncertainty and veiled apprehension in many quarters as to just how far such control will extend and how long it will continue. Publications which act as defenders and apologists for speculators and manipulators are whistling to keep up their courage by arguing that price control is a war measure only and that after the war is over it will cease, and business will be allowed to resume on the former basis.

It is altogether likely that some of the present governmental activities, such as the making of maximum and minimum prices, will continue only during the war. In fact, we doubt the wisdom or necessity of such regulation during normal conditions, but we believe that some of the work will be continued because the people will demand it. The future should not reopen the opportunity for men to make a living and fortunes thru speculation in, or control of, the necessities of life. Such business adds nothing to their value and those engaged in it perform no useful service to society. The elimination of the purely speculative features of trade will leave no necessity for the fixing of arbitrary prices, and the old law of supply and demand—which, by the way, is fairly just when allowed to operate unhampered—will again regulate prices. But we must not forget that there are two factors in the full operation of this law of supply and demand, and men must not be allowed to limit the supply for selfish purposes any more than they should be allowed to exact unjust prices or profits thru monopoly or other activities to restrain trade.

* * *

MILK PRICES

The Interstate Milk Producers' Association announces that there will be no immediate change in the schedule of milk prices. There are no doubt many dairymen who will feel that present production conditions justify an increase, but there are also a number of conditions that certainly make it wise to go slow in price changes at this time. In the first place, the federal Food Administration is making a rather complete investigation with the hope of affecting conditions in the work of production and distribution. Until that investigation is completed there is no way of telling what changes may be made in the near future. It is hoped that feed prices may be decreased somewhat. It is also hoped that distribution costs may be decreased, or changes made in methods of distribution that will result in a decrease to those willing to make use of it. It is possible also that the new system of marketing the grain crops will make a considerable difference in the price of grain feeds. All of these factors had to be taken into consideration, and all pointed to the wisdom of maintaining the old schedule for the present. This decision by the officials of the Association should leave the organization the stronger for future work.

* * *

OVERSEAS ACRE FUND

An organization known as the Overseas Acre Fund, with headquarters at 219 Market St., Philadelphia., Pa., gives opportunity for farmers to contribute to the needs of the suffering farmers of France and Belgium. Every American farmer is asked to give the products of one acre of ground, either in crops or in cash. The farmer, wherever located, can deliver his contribution along with his other crops in his usual method of marketing, instructing the purchaser to make out check for the one acre contributed to the order of the Overseas Acre Fund. The farmer can mail this check to the headquarters of the organization at the above address and receive formal receipt. All expenses of the organization are being paid by outside contributions, and every products contributor under the plan will have the satisfaction of knowing that all he gives will be delivered direct to the intended recipients in France or Belgium.

The plan gives every farmer the opportunity of helping in a worthy enterprise without having to give cash. The organization is in the hands of public-spirited men who are giving the necessary time without charge and who will see that every donation is cared for according to plan. The farmers of France have borne the burden of the past three years of war. They are in need of all of the assistance that can be given to them. The funds will be used to purchase those things that are most needed according to recommendations of the War Relief Clearing House. It is a worthy cause that should appeal to every farmer who wants to help allay the suffering of the most heroic people in the great war.

* * *

OVER-ESTIMATING THE CROPS

Crop reports, on the whole, are of value to every line of industry and no less to farmers than others. But there are some features of the statements which need modifying, or at least changing, so that statistics which are purely forecasts would not appear as facts to the general public and thus harmfully affect the markets to the injury of farmers or the buying public. A case in point is the August estimate of the potato crop. This forecast founded on conditions existing in July showed a most favorable condition and the prospect for an immense crop and prices dropped immediately. July is a long way from the harvest time of the bulk of the white potato crop, and the damaging effects of blight, frost and unfavorable weather conditions usually appear after that. Some of these things have happened and the prophesied crop will not materialize.

Such reports, if made, should be so worded that the consuming public would not interpret them assured facts instead of understanding that the figures are but the guesses of a great number of men as to what may result if everything is most favorable for the next few months. Another crop which is subject to many possible accidents is the corn crop. However encouraging the prospects are at this time, one or more of many accidents may occur within the next month and reduce the yield by one-half or more. Not only should the bulletins make very clear to the public that the figures are mere possibilities and not finalities, but papers publishing them, instead of adding to the misunderstanding, should aid in presenting them in their true relation to the facts.

* * *

THE WHEAT PRICE

The wheat price-fixing committee has named $2.20 per bushel as the basic price for the 1917 crop. It was announced that this figure represented a compromise between representatives of producers and representatives of consumers on the committee. The former were said to favor a price of $2.50 per bushel while the latter held for $1.84. The basic price of $2.20 is for No. 1 northern wheat at Chicago. A scale of "differentials" was also decided upon. No. 1 hard winter wheat, No. 1 red winter, No. 1 northern spring, No. 1 durum and No. 1 hard white, are all placed at the base price of $2.20. Other classes are graded according to their comparative value in milling. No. 1 dark hard winter, No. 1 dark northern spring and No. 1 amber durum are placed higher than the base grade and priced at $2.24 per bushel. No. 1 soft red winter, No. 1 red spring, and No. 1 soft white are priced at $2.18, while No. 1 yellow hard winter and No. 1 white club are priced at $2.16 per bushel. No. 2 grade of each class will be three cents less per bushel than No. 1 of the same class; No. 3 grade will be six cents less and No. 4 will be 10 cents less than No. 1.

Price variations are also allowed according to location. With Chicago as the base, wheat at Buffalo will bring five cents more than the base price, at Baltimore, nine cents more, at Philadelphia, nine cents more and at New York, 10 cents more than the base price. Thus at Philadelphia wheat grading No. 1 hard winter would sell at $2.29;No. 2 hard winter at $2.26; No. 3 hard winter at $2.23 and No. 4 grade at $2.19 per bushel. The location differentials are definite and readily calculated, but the establishment of grades will be a more difficult matter. Wheat has been graded on a very loose classification in eastern markets in the past. The new grain grades law will prove particularly valuable under this arrangement. Not until that law is fully developed for local markets and the revised marketing machinery is put in operation will the eastern farmers know definitely what they will get for their crop.

The base price should be generally satisfactory. There is no doubt but that it would have gone higher—very much higher during the coming winter and spring—under unrestricted speculative marketing. But it is not so certain that the fall price would have greatly exceeded the price named. The chart on page 14 of this issue tells an interesting story of the price of wheat in August and September when the bulk of the crop passes out of the farmers' hands. The sacred law of supply and demand has had little effect so far as farmers were concerned with the August and September prices.

HARRISBURG NOTES

Short Circuiting Reports.—Judging from what is heard on Capitol Hill the administration has awakened to the absurdity of reports of November conferences being published in July bulletins; results of April and May milk and food inspections being issued in August and prices of farm products in July coming out when the school bells are ringing in September. Inquiries have been made by printing authorities as to reducing volume of publications and some departments that have been waiting for weeks for the printer to send proofs are casting around for means of consolidating. This tendency to combine bulletins and reports is to lessen chances for criticism about which official people grow sensitive the year before gubernatorial elections. In two departments publications have been brought down to date and will be issued as a combination of best features. If the new Bureau of Markets is to be no more successful in getting prompt action on its printing of prices and quantities than the adjutant general's department has been in getting a roster of the National Guard up to date the printing orders might as well be annulled and a fresh start made on a basis of utility. There are some reports in process of printing that might as well be thrown away.

Back to the Ground.—From all accounts reaching here farmers are contemplating a return to the old style form of ground storage for their potatoes and fruit this year. The "war gardens" have so flooded the local and curb markets in the smaller cities that many more bushels of potatoes will go into storage than known for a long time. Demands for information as to methods of storing have been greater than known in years. The Department of Agriculture has put out Bulletin No. 298, giving a collection of recipes declared worth while. This publication comes almost at a time to be useful.

Expense Not Everything. — Public Service Commissioner John S. Rilling has issued an opinion in a grade crossing case dissenting from an easing-up decision by the commission. Mr. Rilling points out that the state is spending millions of dollars on roads and that traffic has immensely increased because of the automobile. More accidents, he says, occur at country than at city crossings. It has been contended that to start to eliminate all grade crossings, even with state assistance, would mean bankruptcy and no end of trouble if begun in war time. Mr. Rilling thinks that palpably dangerous crossings should go. There are 12,000 crossings in Pennsylvania, many of which are classed as dangerous and all of which he says are a menace in some form or other and a source of expense. The commissioner points out that automobile travel is taking people farther away from home and into neighborhoods where they do not know the purely local conditions and that the state should minimize every danger. Expense, he says, should not be first consideration.

Test Pollution Act.—It is said that men ordered to stop draining certain wastes into the Schuylkill River will test the anti-pollution laws in the courts. There never has been much progress announced in obtaining a more fair interpretation of the laws relative to pollution of streams by cattle. Months ago the State Commission of Agriculture named a committee to confer with the State Department of Health officials regarding some amelioration of the restrictions which, it has been contended, have been barring cattle from streams. There have been many complaints against the regulations, especially now that almost every food conserver is urging an increase in the number of cattle. From all accounts the Health officials have been willing to take up the subject.

Apple Packing Law.—The new apple packing law, which requires all fruit in a parcel or container to be uniform and for a system of grading with information on the labels, is now in force in Pennsylvania and state inspectors are looking around to see how it is being observed. Failure to meet the requirements is to be followed by prompt arrest. Officials say so much publicity and notice was given that there is no excuse for failure to comply.

To Inspect Materials.—Agents of the Department of Agriculture have received instructions to inspect spraying materials under the new law. The men are to endeavor to prevent any substitution of inferior or useless stuff for sprays. Simultaneously attention will be given to cattle feeds, lime and fertilizers as the fall sales are commencing to be made. Prompt prosecutions for frauds have been ordered. — Hamilton, Harrisburg, Sept 3.

NEW JERSEY FARM NOTES

Farm Labor Exemption.—Officials in charge of the selective service law in New Jersey recognize the importance of agriculture. This is evidenced by the number of drafted men being exempted and discharged because they are engaged in farming. At a recent sitting of one of the Federal Boards there were 56 men excused from military duty and of these 31 were farmers, showing the importance placed upon having the productive resources of the country maintained at their highest point of efficiency.

Regulate Retailers.—Governor Edge expresses the belief that unless the new Federal Price Control Law, which Congress contemplates enacting, regulates prices that can be charged by the retailers there will be little relief from food gouging. He says that from the investigation held in a small way in this state it has been found that the producer is not the man receiving the abnormal profits. "It is the continuous adding to the producer's price, multiplied thru many hands, that establishes the retail price." The Governor thinks that if this system can be broken up by the proposed law the solution of the high cost of living, so far as farm products are concerned, is in sight.

Peach Crop.—The markets are full of the finest Jersey peaches and the prices are moderate. Up to August 27, 484 carloads of the fruit had been sold from New Jersey orchards. South Jersey has just concluded its annual observance of "Peach Week," which was conducted under fair weather conditions. Prices are reported as high, in view of the exceptionally large crop. Even better returns are expected from now on, as the fancy and larger varieties are now maturing. Earlier shipments have been principally of the Carmens, and the Belle of Georgia, Elbertas and other varieties, desired for canning, are now ready and being picked. Tomatoes are very much in demand, one canning concern in Camden putting up 100,000 baskets a day. Where for many years the price was 20 cents a basket to canners, they are now paying 60 cents. During the week from August 14 to 20, New Jersey shipped 1,379 carloads of potatoes, out of a total of 2,964 from the entire country.

Infantile Paralysis.—The report for July issued by the State Department of Health shows that there were but 13 cases of infantile paralysis recorded by the department, as against 640 during the same period in 1916.

School Attendance.—State Commissioner of Education Kendall is taking special steps to see that the attendance at school during the coming term is not relaxed. It has been feared that many parents might employ their children in the vacancies in industries caused by the call to the colors. Efforts will be made to counteract this and to impress upon all the maintenance of proper school attendance and the need for education.

Insect Pest.—The state Department of Agriculture is studying an insect pest recently introduced into Burlington County. The discovery was made by H. B. Weiss, Chief Inspector in the department. This insect is a beetle, one-half inch in length and resembles a June bug in many respects. It is much like the rose chafer or rose bug. —L.

NEW YORK LETTER

School Boys for Harvest.—Dr. John H. Finley, state commissioner of education, has recommended to school principals thruout the state that boys who are needed for harvesting crops this fall be released from their regular classes. He suggests that arrangements be made to give such boys special tuition. The boy helpers are fast leaving the farms now and returning to town looking to the opening of the schools early in September. This, with the shortage of help made by the draft and by enlistment, is going to make a labor shortage such as was never known, with an amount of crops to harvest never equalled in the state.

State Food Control.—The new state food bill passed the assembly after 32 hours of continuous session, on a vote of 99 to 31. The Senate then passed it on a vote of 43 to 3 and the bill now awaits the governor's nominations of the three food commissioners. Several lesser bills were passed and then the Legislature adjourned until Sept. 6. There promises to be a vigorous fight in the assembly if Governor Whitman appoints Geo. W. Perkins chairman of the commission, as he has planned to do. Majority Leader E. R. Brown has demanded Perkins' withdrawal.

To Investigate Insurance.—A thoro investigation of the fire insurance rates of the entire state will be undertaken by Superintendent of Insurance Jesse S. Phillips. The Board of Estimates and apportionment of New York City recently asked for an investigation of the rates in that city. Letters have been sent to every stock fire insurance company in the state and later public hearings will be held.

Few Convicts Fit to Serve as Soldiers.—Of the 6,000 men confined in the state's prison less than 30 percent are thought to be normal in every respect and fit for national military service. Close confinement is given as one reason for physical imperfection of convicts, and the theory that crime is a disease seems borne out by the statement that a regiment could not be formed out of the state's criminals.

Crop Notes.—Preparations are being made for the harvesting of the western New York peach crop. It is estimated at 8,500 cars, a record-breaker for the section. The quality will be of the highest and the price will average to the grower 75 cents a bushel for tree run fruit. The problems of sufficient cars and labor to secure the crop are both serious. About 50 camps of farm cadets, or 1,500 boys, will be sent here for the three weeks' work. The cabbage crop is late. Kraut factories will not open until September 10. Contract prices are about $8 a ton, but many have not arrived at a price. New York apples in the western belt will be a normal crop, but is very light in central and eastern New York where many farmers have not enough for home use.

County Tractors a Failure.—According to a sub-committee of the Food Supply Commission, tractors in Cayuga County are a failure, the chief cause being bad weather. Four machines were purchased for the county by the commission. They are reported to have worked less than half the time, with full salaries for the operators. Reports from other counties where the plan was tried are similar. The machines will not be used for fall plowing for wheat, and are at the disposal of the commission. Too many farmers already have horses that would otherwise be idle if the tractors are hired, is another reason for the failure.

Additional State Buildings.—A new office building for departments of New York State will be erected shortly at Albany. The design will be an echo of the architecture of the capitol and of the educational building, so as to make the three great buildings a harmonious whole. The actual work of construction will be begun in 1918 when the Legislature will appropriate several millions for this purpose.

Seed Potato Survey.—Cortland County Potato Growers' Association is cooperating with the State Food Supply Commission in a survey of the county's potato fields. All farmers who have 5 acres or over are allowed to have their fields inspected free and if found to be comparatively free from disease their plots will be recommended for next year's seed. Funds are available for only two inspectors for this work. The larger potato sections will be surveyed, giving two inspections, one of vines and one of tubers. Disqualifications for seed stock will be, as a general guide, 1 percent varietal mixture, 10 percent mosaic, 5 percent weak hills or wilt, 1 percent leaf roll, curly dwarf or black, severe infestation with insects or leaf diseases, poor cultural conditions, or low yield.

Official Test of Headlights.—Owing to the confusion that has developed since the Anti-Glare law went into effect, the Governor and legislative leaders have consented to special legislation during the extra session to arrange for official tests of headlights for motor vehicles.

Live Stock Exhibits Poor.—Several of the largest county fairs of the state have been held, with good weather and record attendance. But the cattle and poultry exhibits have been the poorest since the early days of these fairs, only about 25 percent of many of these exhibits being displayed. The hog exhibits are also very few in number and poor in quality. The situation is due to high feed prices, owners of purebred stock being unable to condition their animals for showing, and many have closed out fall lines entirely as being unprofitable.

Gain in Exports of Meat.—There has been a 20-percent incre se in the exports of some meats this year, while imports of meat and meat animals have fallen off. Exports of bacon to the Netherlands were 10,625,101 lbs. as compared to one and a half millions previously. Mutton is the only meat not greatly increased in export trades this year.—F.

FARM MEETING CALENDAR

Solebury Farmers' Exhibit, Solebury, Pa., September 7-8.

New York State Fair, Syracuse, N. Y., September 10-15.

Inter-State Fair, Trenton, N. J., September 24-28.

Dairy Cattle Congress, Waterloo, Ia., October 1-7.

Eastern States Exposition, Springfield, Mass., October 12-20.

National Dairy Show, Columbus, O., October 18-27.

American Pomological Society, Boston, Mass., October 31-November 4.

International Live Stock Exposition, Chicago, Ill., December 1-8.

FAIRS NEXT WEEK

County	Town	Date
	Pennsylvania	
Centre	Centre Hall	Sept. 8-14
Lawrence	Pulaski	Sept.11-13
Susquehanna	Montrose	Sept. 11-13
Cambria	Carrolltown	Sept. 11-14
Crawford	Titusville	Sept. 11-14
Cumberland	Carlisle	Sept. 11-14
Jefferson	Punxsutawney	Sept.11-14
McKean	Smethport	Sept. 11-14
Northampton	Nazareth	Sept.11-14
Tioga	Westfield	Sept.11-14
Juniata	Port Royal	Sept.12-15
	New York	
Onondaga	Syracuse	Sept.10-15
Jefferson	Cape Vincent	Sept.11-13
Clinton	Plattsburg	Sept.11-14
Rensselaer	Nassau	Sept.11-14
Tioga	Owego	Sept.11-14
Washington	Cambridge	Sept.11-14
Ontario	Naples	Sept.12-14
Orleans	Albion	Sept.12-15
	New Jersey	
Burlington	Mt. Holly	Sept.11-14

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30x3½	$6.00	34x4½	$8.50
32x3½	$7.00	35x4½	$9.00
33x4	$8.50	36x4½	$9.00
34x4	$8.50	37x4½	$10.00

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New Problems in Feeding

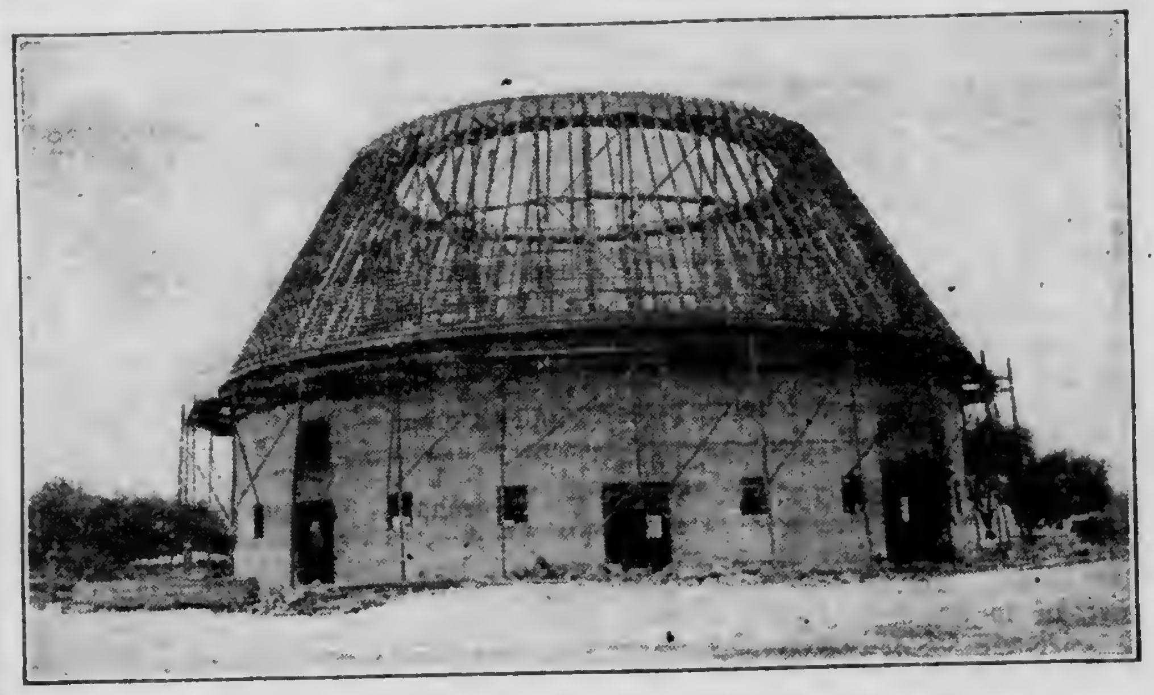
High Grain Prices Force New Conditions in Economical Feeding

The following discussion of present considerations in dairy feeding was issued by Prof. Fred Rasmussen, of Pennsylvania State College, to the Secretary of the Interstate Milk Producers' Association. It is of most timely interest to all dairy feeders.

Feed Prices

Corn is soaring to a level never anticipated. The prices of the common dairy feeds are extremely high. When writing for prices on feeds, the reply invariably ends by saying: "Wire order, as prices are likely to advance". Labor is scarce, and the price of milk uncertain. Considering all of these factors and the risk of the dairy business, and at the same time the opportunity for profit in raising staple crops, such as wheat and corn, is it any wonder that in many sections the farmer is selling, or is greatly tempted to sell, his dairy cows and forget all the troubles and worries of the whole business?

Wherever cows are found today in old established dairy sections, they have taken their places in those sections for definite economic reasons. We are today facing temporary, unnatural economic problems, and when this war is over our agriculture will develop according to the same economic laws that governed its development previous to the beginning of the war. Dairy cows, therefore, will gradually return to sections where previously found.



SHOWING MANNER OF ROOF CONSTRUCTION OF ROUND BARN.

Why Dairy Cows are Sold

There are two main reasons for selling dairy cows at the present time. First, the opportunity for greater profit in other lines of farming; secondly, a shortage of labor may temporarily force the dairy farmer out of business. Here is the problem confronting the dairy farmer: Is it best for me and the country in general to sell my cattle and raise crops, or shall I try to struggle thru in the face of all the difficulties confronting me? If the prices of wheat, corn and other money crops continue to stay at a high level for a period of several years, there likely will be greater profit in raising crops than producing milk. If on the other hand the period of unusual high prices for grain should last only for one year more, a change from producing milk to raising crops would not prove profitable, as the immediate gain might be less than the sacrifice in changing from live stock farming to grain farming and back to live stock farming.

When studying this problem, do not forget either that the relation between the prices of grain and labor and the selling price of milk is not yet settled. It is not unlikely that the price of milk will advance beyond what it is today, and in such case the dairy business may prove more profitable than it looks at present.

How To Feed

How to feed and what to feed this winter is the great problem. The old custom of feeding used to be to feed one pound of grain for every three to three and one-half pounds of milk, and then feed roughage as much as the cow would eat. This custom must be revised. The method of feeding today in most sections should be to feed, first, as much roughage as it is possible to get the cow to consume and then feed the minimum amount of grain for economic production. To say what this amount of grain is, is impossible, as it will depend upon the kind of roughage available and whether the cow is a low, medium or high producer; also upon the relation of the price of grain to the price of milk.

There never was a time in the history of the dairy business when the importance of economical feeding was as great as it is today and where as much can be saved by a study of the individual cow and then feeding according to production. The amount of milk produced, the cost of grain and the price of milk must be constantly in the minds of the dairy farmers. No one knows at this moment what the prices will be of various grains this winter. It is not likely that we are going to turn stone into bread, no matter how high the price of wheat. Neither is it likely that we are going to revolutionize our feeding materials by new discoveries. It will be protein and net energy which will produce milk this winter.

New feeds are likely to appear on the market. They will be mixed to sell for less per hundred pounds than common dairy feeds on the market. Remember that the price per hundred pounds is no measure of the value of a feed. It is the price of digestible, true protein and net energy purchased that determines the relative value of feeds, and not the price per hundred pounds. Compare the feeds on the basis of the guarantee found on the tag or on the sack with the price. Grain will be too high in price for chance selection, and it will appear to be good, common sense to stick as far as possible to the feeds with which you are familiar.

Can we afford to use corn this winter for feeding dairy cows? We don't know. Let us wait and see what the price will be. Then compare this price with the prices of other feeds, the expense of husking, hauling the corn to market and hauling other feed to the farm.

Feed Roughage Heavily

To get the cows to eat more roughage, especially silage and legume hay, will economize on grain. The cows will consume more roughage when fed more often. Feeding silage three times a day instead of twice a day, at the Pennsylvania State College, increased the amount consumed by the cow from 36 pounds per day to 52 pounds per day, or an increase of 44 percent. In short feeding trials at several experiment stations when leguminous hays, such as alfalfa and clover hay were substituted for either part or all of the grain ration, there has generally been a slight decrease in the amount of milk produced but an increase in the net profit.

The following will give an idea of the amount of milk which it is possible to produce with a minimum amount of grain. Three combinations for roughage are possible to fit the dairy sections in Pennsylvania: Namely, corn silage and alfalfa hay; corn silage and clover hay; corn silage and timothy hay. However, in many sections corn stover is used in place of corn silage.

An average cow giving 15 to 18 pounds of milk must consume about 14 pounds of alfalfa hay and 35 pounds of corn silage to be fed practically a balanced ration. The cow will consume this amount if fed three times a day instead of twice. No grain is necessary for this production. If eighteen pounds of milk or more is secured, it is necessary to feed a small amount of grain.

When feeding silage and clover hay to an average cow giving from 15 to 18 pounds of milk per day, it is necessary to feed one pound of cottonseed meal or its equivalent in protein content on the silage.

When feeding silage and timothy hay to an average cow she can consume only about enough to maintain her protein balance. She must be fed to produce from 15 to 18 pounds of milk, two pounds of cottonseed meal or its equivalent on the silage.

This statement shows the approximate amount of milk which it is possible to obtain from a cow practically on roughages only. When an average cow is producing over 18 pounds of milk daily, it is necessary to feed additional grain. The amount will depend upon the amount of milk, the price of grain and the selling price of milk. Even if grain is high, it should be fed as long as the increase in the milk will pay a profit on the grain fed, unless the grain is needed for human consumption. Under no circumstances can the dairy farmer afford to feed grain today without weighing or measuring both the milk and the grain. And figure their relative value.

ORGANIZATION ACTIVITIES

Cumberland County Dairymen Organize

Cumberland County, Pa., is a fertile limestone valley, 40 miles long by 10 to 15 miles wide, lying directly west of Harrisburg. Hundreds of carloads of grain, fat stock, fruit, poultry, etc., are shipped out annually, so dairying is by no means the only job here. But the dairy cow, even under the present unfavorable conditions, has managed to remain on most farms and some 30 to 40 tons of milk a day (10,000 to 15,000 tons a year) are shipped out of the county, about one-half, along the south side, going over the Reading from six shipping points to Philadelphia and the other half, along the North side, going into Harrisburg or being condensed.

The Harrisburg bunch "beat us to it". They got organized and had their dealers coming around asking "How much are you going to charge us for milk next month?" While we, on the south side, were still looking up at the

side of the milk house door to see what we were going to get. Of course we growled because we were not getting enough. We have been growling for the past 20 years, but the only satisfaction we got was, "The people in Philadelphia will drink rain water before I'll pay any more", "If you don't like it, why don't you quit?" So we arranged for a series of meetings at each Philadelphia shipping point, which were addressed by Dr. J. N. Rosenberger on behalf of the Inter-State Milk Producers' Association. Marked interest was shown and 85 to 100 percent of the milk producers signed up at four of the larger stations. By way of good measure, "overflow meetings" were held at two points in an adjoining county and a lot of condensary milk signed up there. By next winter it probably will not be possible to get a glass of milk in Cumberland County that isn't "organized"—at least a winning majority of it is organized now.

Conservatively estimated, this means 50 cents more per 100 pounds than we would be getting without any farmers' organizations. We are getting about $1 more than last year and that means $3 to $4 a day, $100,000 to $150,000 a year, increased income to the farmers of Cumberland County—with courteous treatment and prompt, sure pay.

Some of us made some sacrifice, but we thought it worth "going after". The night of our best success we had the last inner tube out four times, the engine got balky for a spell, the lights went out, the patches and gasoline were exhausted. We pushed 'er flat a ways into the corner of a hay field and walked home, getting there before sunrise. The sun shone clear next day and in the evening we were out again, realizing that all the rest of the world is organized. A south-sider and the farmer must fall in line or drop out of the procession altogether. We hope that every shipping station beyond the Susquehanna will organize before winter.—B.

No Change in Milk Price

The Executive Committee of the Interstate Milk Producers' Association in recent meeting decided to make no change in schedule of prices for the present. Accordingly, the Association price will remain the same as for the month of August until further notice. There are no doubt abundant grounds in present producing conditions to substantiate an increased price. But in view of the Federal investigation being made by the Food Administration, and the promise of early report on production conditions in all of the producing field, it is certainly the part of wisdom to defer price changes just at this time. There is some hope that the Food Administration will succeed in effecting a decrease in the price of feeds before the winter sets in, which will further affect producing conditions.

Milk Investigations

This appears to be the day of investigations into the cost of producing milk. The State Milk Commission is to be revived to investigate the costs in the Pittsburgh section. Demands are being made for a similar investigation in the Baltimore field. Wherever the dairymen are organized to demand attention to their needs, there is talk of going to the bottom of things. The investigation in Philadelphia last fall was the best thing that could have happened. The way the dairymen came forward and opened every record book and revealed every detail of their business went a long way in gaining the confidence of the consumers and gaining recognition of the just demands of the producers. It showed that the dairymen were fully able to defend their position and were merely asking for their just rights. There is nothing to fear and much to be gained from a fair and complete investigation.

BALANCED RATIONS SAVE DAIRY FEEDS

Dairymen can solve the feed shortage by the same method that people are using to solve the food shortage: They can make what they have go further. If food economies can result in feeding more people with the same amount of food, the same feed can feed more cows. No one advocates the killing of part of the people in order to provide an abundance of food for the rest. It is not more necessary to kill large numbers of dairy cows because of a short feed supply. Such action, moreover, taken in the face of our national need for dairy products, would be calamitous.

Dairymen who feel the pinch of feed shortage will do well to give special attention to balancing their herd rations. A balanced ration is an efficient ration. It means making the most of the feeds used. Unless a proper balance between the protein and fat and carbohydrates contents of the ration is maintained waste is certain. This waste may be either in feed, in production, or in both.

When the production of a cow is limited by the amount of protein in her ration the addition of more carbohydrates and fat does not help the situation. More fat and carbohydrates in that case only increases the amount of fat the cow is able to put upon her back. This extra fat constitutes still another waste of feed. The dairy cow does better work when not in a beef-fat condition. Not only does extra fat on her back mean lost energy in putting it there, but additional lost energy in vitalizing and maintaining it.

Altho seldom the case, carbohydrates and fat may be the limiting element in the ration while there is an excess of protein. This is more serious than an excess of carbohydrates and fat, for protein is more difficult and costly to obtain. The fine point in feeding dairy cows is to use such feeds in such amounts as will give the greatest production at the most profit. This calls for balanced rations. With feed prices at their present altitudes it will pay dairymen to make a special study of their feeding practices.

CATTLE ENTRIES FOR NATIONAL DAIRY SHOW

The National Dairy Show this year has a potential international as well as national duty to perform and the dairy breeders of the country will no doubt patriotically respond to the call of their country and her allies for food by helping advance the cause of dairying thru vizualizing to the thousands of farmers who will attend this show the real cattle of the industry and by an enthusiastic attendance of the men who are keenly interested in the successful and profitable progress of dairy farming, thus boosting and aiding and encouraging the man on the farm.

The world is pretty nearly dependent on us for food now and the greater part of the old world will require to be restocked with dairy cattle by us after the war, so let us make of this show a dairy cow mobilization and thus leave an impress upon the minds of our visitors of the inevitability and necessity of dairying.

Enter your cows early. If you have not received a copy of the prize list, write for one to the National Dairy Show, 8 East Long Street, Columbus, Ohio.

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WITH land values where they are today and crop prices at the top notch, it is a very important matter to handle every operation of your seed sowing and crop growing in the way that means getting every dollar of profit. Nowadays every bushel added to your harvest yield counts!

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Canadian Government Agent

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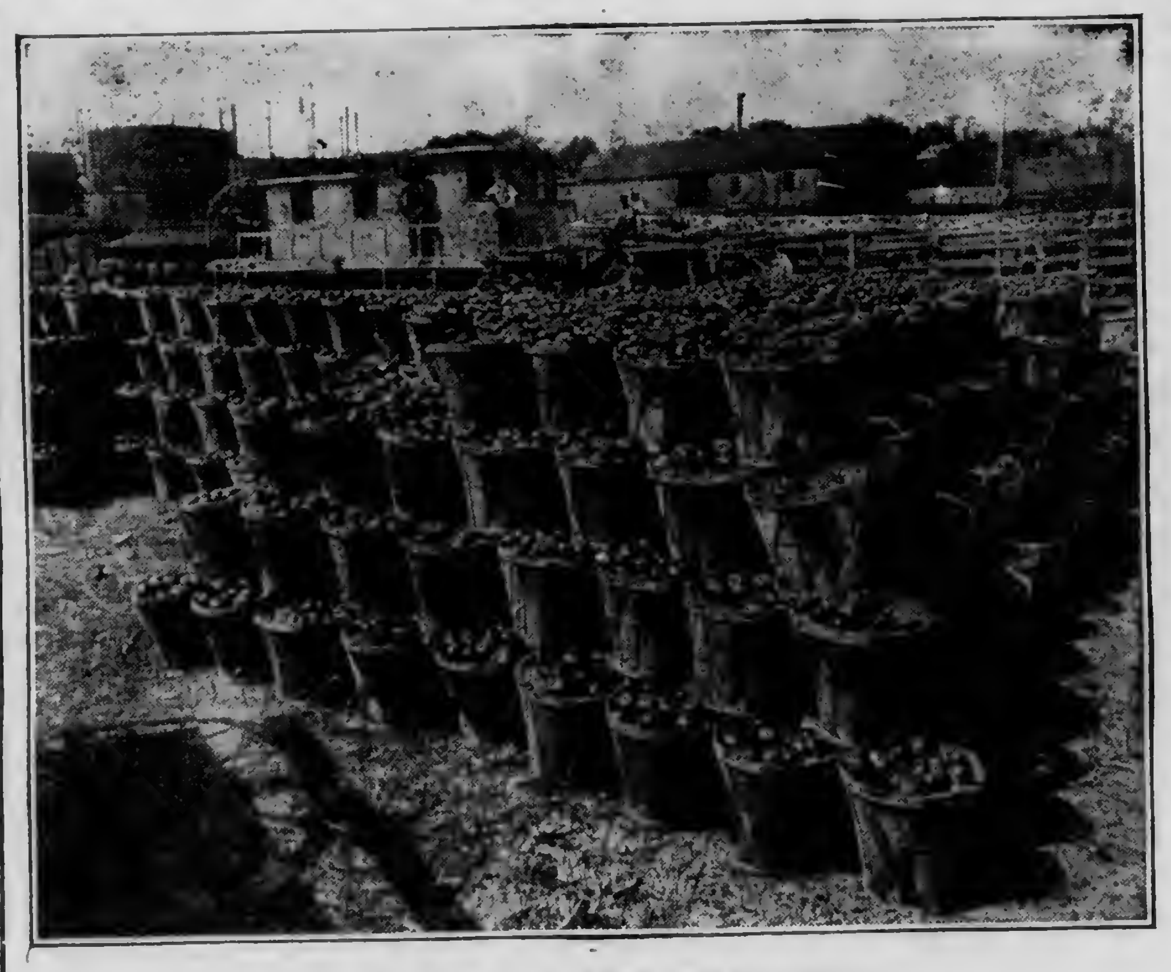
Horticulture

GROWING ASPARAGUS

From Seed or Nursery Crowns?

On page 4 of the August 11 issue of Pennsylvania Farmer there appears an article from the pen of our old and good friend W. F. Massey. Mr. Massey criticised Mr. J. B. Norton's views on growing asparagus. Now, if I am permitted I want to substaniate Mr. Norton's claims. I have read numerous discussions similar to the one referred to, but I am still planting my asparagus seed in a nursery bed and setting one-year-old crowns in the permanent bed. What a hard-shelled old baptist I must be, when I here admit that I have read numerous articles and hints from Mr. Massey trying to convince his readers that his way is the correct way and setting plants should be relegated to the past. But these articles fail to convince, and yet what Mr. Massey says is mostly true; in fact, quite true. Mr. Massey's plan of planting asparagus seed where it is to remain will work out on a 10x10- or a 10x20-foot plot in one's garden, provided the gardener gives it attention enough. But from a commercial point of view his scheme is utterly impractical. He says he has proved years ago that in this way he gets cuttings a year earlier than by transplanting. He is right in that statement. Next he says, "If Mr. Norton would give some reason for his not believing in this practice it would be more interesting''. Perhaps friend Massey and the Pennsylvania Farmer will permit me to give my reasons why I am setting one-year-old plants and losing one year in time; valuable time, too. I want to discuss this subject from the standpoint of the commercial grower. Had friend Massey made an exception in his discussion of the commercial grower this article would have been uncalled for; but he does not. I am a commercial grower and from my viewpoint his scheme is not practical. I have five reasons for saying this, any one of which would be sufficient for me to continue in the old way.



TOMATOES AT A NEW JERSEY PORT.

First, the amount of territory covered with seed. Second, the possibility of having the trenches—15 inches deep as he says he digs them—washed more or less full by heavy rains and burying the seed to such a depth that it could not come thru; or, if the rains occur after plants are above ground, that sandy soil washing down from the sides would bury the young plants and smother them. Third, in case the rains did not come, then the soil would dry and blow with every wind and that would more or less fill the trenches. Fourth, it would be next to impossible to keep the young plants free from the asparagus bugs and their larvae when those plants covered so much territory. In other words, the grower would be compelled to cover so much ground with poisons that the time and cost of material would so militate against success that the crop would be lost ere the job was completed. Fifth, and last but not least, weeds and summer grass (crab grass). The asparagus seed is very slow to germinate, particularly when sown early. It frequently takes a month from the time it is planted before it is over the ground. During that time a great many weeds will sprout and begin to grow, and unless the soil is particularly free from weed seeds the whole surface will be occupied with a foul growth before the asparagus plants are in view. If planted a little later, as might be claimed, germination would be quicker. I admit that, but so would the weeds grow quicker.

Now imagine a farmer getting ready to plant 5, 10 or more acres of asparagus with seed in the permanent bed by Mr. Massey's method. First he would have 8,700 feet of trench to dig 15 inches deep for each acre made ready. That means one and one-half miles of trench digging for each and every acre prepared. Second, how would you sow those seeds so as to have them stand 15 inches apart in one place without an immense amount of thinning? Then imagine a man or men down on their knees thinning this young grass down in the bottom of the deep trench. Oh! my back! Next imagine the asparagus beetle getting busy on five or more acres, the young larvae just hatched out and so hungry. Where would those young plants be in half a week?

But supposing the bed had escaped all other enemies, or the farmer had fought them off and was still living and able to work. Then comes the battle with weeds and crab grass, and they never stop fighting for supremacy. Imagine again, if you can, a farmer trying to clean up over a mile and one-half of row for each acre he has planted and mind you those weeds grow from the level down both slopes of his trench, across the bottom and on the other side, a distance in width of nearly, or quite, three feet. Who wants any? I don't.

I leave this to any practical farmer to decide if this word picture is overdrawn. We asparagus growers who set out plants, something that will be growing a month before seedlings appear above ground, find it very difficult indeed to keep the field clean, and keep the larvae of the asparagus beetle from devouring it. That being true, what then must be expected when seed is planted in the permanent bed? Furthermore, there is not one season in ten that his trenches would not either wash partly full or blow full if it was dry. In fact, I have seen both. In planting good, strong, one-year crowns it frequently happens that some of those wash under so badly that they fail to grow.

Our friend Mr. Massey cites experiences and observations to clinch his argument. It is true, all of it, but my point is this: In order to make it true it will cost the grower three dollars to get back one and stand a long chance of failure besides. Is that Twentieth Century farming?

I find it quite difficult to keep nursery beds of seedling asparagus plants clean and free from weeds and crab grass, and unless it is planted where poultry can roam thru it, it is nearly impossible to keep the asparagus beetles from ruining it. Now if we spread the plants that are commonly grown on half an acre in the nursery bed over five acres in the permanent bed, what must we expect? Catch my point?—C. C. Hulsart, Monmouth County, N. J.

NEW YORK STATE VEGETABLE GROWERS' MEETING

About one hundred and twenty-five muck land vegetable growers with some thirty-five cars gathered at Williamson on Saturday, August 25, for a field meeting of the New York State Vegetable Growers' Association. Fully a third of those present were from other counties, and points as far distant as Canastota and Elba were represented. The arrangements for the meeting were made by the state association.

Messrs. Tuttle and Russell are operating about 22 acres of recently cleared muck which is giving splendid results. The soil is of the more coarse type, and is not as thoroly decayed as some. It is well-drained and very close ditching is not required. Mr. Russell, in co-operation with the farm bureau, is carrying thru a thoro-going set of experiments which he expects to continue for several years to determine the value of potash for muck crops. The differences this year are not very clear cut altho the soil has been heavily fed with complete fertilizers in previous years. It is possible that differences will show up in later years of the trial. Celery plants are not yet far enough advanced to show distinct results but casual observation indicates that spraying is decidedly helpful in the control of celery blight.

The farm of W. P. Rogers was next visited and the visitors grouped themselves on his lawn for a picnic lunch, after which a short session was held under the trees. Mr. A. P. Fischer, of Canastota, described the methods of onion culture as practiced in his district. He also raised a question that has been discussed by the Madison County Vegetable Growers' Association. This organization has prepared a petition asking for the establishment of a minimum price of one dollar on onions. The uncertainties of the food control situation, together with the indictment of onion dealers, have kept buyers from arranging for the movement of the crop as usual. Many growers are unable to store their own product and there is danger that serious hardship will be worked. This matter of minimum price will be taken up by the Executive Committee of the New York State Vegetable Growers' Association.

Mr. V. W. Ridley, of the Office of Horticulture at Washington, was present to explain the Department's work in pre-cooling. His statements were of special interest to lettuce growers about Williamson because it is their practice to place all of their lettuce in a cold storage warehouse for 1½ to 4 days previous to shipment. While this costs six cents a package, they find it pays splendidly on account of the better condition of the product when it reaches the market. Their experience would indicate that every muck land section ought to have a cold storage plant where pre-cooling could be practiced. While this alone would not maintain such a plant, there would be a few sections where there are no other products to be stored during the winter.

Prof. Paul Work of the College of Agriculture presented a brief summary of muck land crop conditions as they exist over the state. Lettuce is, in general, doing well and shipments are heavy. While prices are declining from very high levels, they are still good. Celery is coming on in good shape. The onion crop will not be as heavy as appeared during July, and the Canastota section will not likely run above 250 bushels per acre. There will probably be many small onions thruout the state. A few small pieces of onions are being harvested and some sales have been made at $1 per bushel.

In the afternoon, the farms of Leenhout's Brothers were visited. Here experiments in the control of lettuce diseases were seen. Most of the trouble is caused thru tip burn or bottom rot. Tip burn is not occasioned by fungus, and it seems to follow upon over-heavy fertilization. Bottom rot does not yield readily to control measures. Keeping the soil loose underneath the leaves is of value. Strains of seed are being bred for tall stem plants which will permit of free air circulation underneath the heads.

At the Pearsall farm, Skinner irrigation was seen in operation. On one of the farms of W. B. Frear, a novel drainage system was seen. The muck lies very low and drainage water must be lifted to get it into the run-off ditch. This is done by means of an electric motor and a wooden trough in which are arranged boards attached to heavy chains, so that the device works like a chain elevator.

Timely Fruit Notes

By Dr. J. P. STEWART

Borers in Apple Trees

"I am worming my apple orchard just now and the young trees certainly get lots of worms in them. I understand that there is some kind of a tar product on the market to control this worm that gets into the base of the tree so much. If there is anything that you have confidence in and know will work out, I would be very glad to have you send me the prescription.'' W. P. F., Allegheny County, Pa.

There are several preparations of asphaltum that have been used with apparent success and without special injury to the trees in controlling borers on both peach and apple trees. In general, however, I would much prefer to use concentrated lime-sulphur for this purpose. This material is practically always safe even at full strength of the concentrate. It needs renewing somewhat more often than some of the other materials but is practically as efficient and is much safer than any other.

To be most effective, the first application should be made somewhat before the middle of June, as the adult insects usually emerge and begin laying their eggs about that time. At least one additional application should be made, within a month or six weeks, and if conditions are very bad and the trees are growing rapidly so that cracks appear in the coating, it may be desirable to make a further application about the last of August or the first of September. Under ordinary conditions, however, one or two applications should be sufficient for satisfactory protection against the apple borer.

Cherry Plant Lice and Pear Blight

"I have several young cherry trees, the leaves of which are polluted with insects on the under side. These leaves curl up and die. Would like to know just what to do to rid the trees of these pests. I also have a pear tree, the leaves of which are turning brown and the branches dying. There seems to be no insect visible.''—D. R., Franklin County, Pa.

The difficulty with the cherry tree is probably the cherry plant louse. If the leaves are badly curled and the trees are relatively small, the best means of control are to dip the infested foliage in a solution of whale oil or white laundry soap, made up at the rate of 1 pound in 5 or 6 gallons of water. The solution may be carried in a pail and the tips of the young trees should be carefully bent over and held in the liquid long enough to wet all the lice.

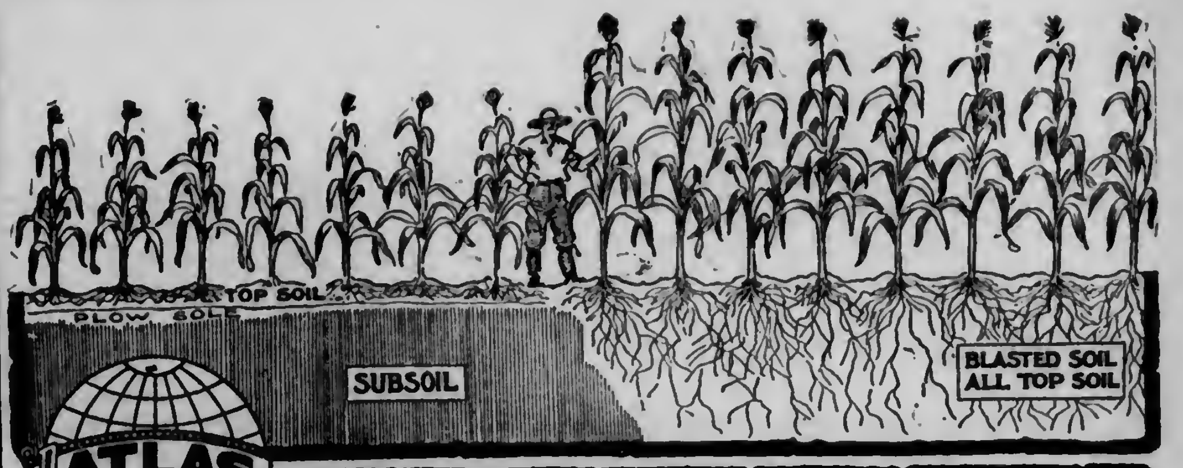
In the case of the pear tree, the trouble is evidently fire blight. This is a bacterial disease and the only satisfactory method of control is to cut out all infested twigs at least 8 or 10 inches below the external evidence of the disease and disinfect both the tools and cuts with a solution of corrosive sublimate, made up at the rate of 1 tablet to a pint of water. Where the number of trees is small, it will also be advisable to gather up the diseased twigs and burn them.

Best Time for Fertilizing Fruits

"Is there any best time for applying fertilizer to peach or apple trees? It seems to me that I have recently heard of particularly good results coming from an application at some special time in the growth of the crops but can not get in touch with the point just now.'' W. H. B., Bucks County, Pa.

The present evidence seems to indicate that nitrate of soda applied somewhat before blossoming and before growth starts is often of distinct value in increasing the size of the crop. This is apparently accomplished simply by increasing the percent of blossoms which set fruit. When the current season's crop is already large enough, however, nitrate applications somewhat after the blossoming period or at any time up to five or six weeks after the fruit is set is often valuable in materially increasing the size of the crop the following year. This is done by increasing the amount of blossoming.

That the expected potato crop of New Jersey has fallen down 18 percent is the startling information in the August crop report of the Department of Agriculture of that state. The present indication is that the product per acre will be only four-fifths of a full yield. Hot weather the latter part of July caused the serious drop, and another reason is the development of disease that usually follows showers in hot weather. Secretary Alva Agee stated that a week of extreme heat in midsummer never fails to do some injury to the potato plant, from which it cannot recover. He urges city families to buy potatoes this fall in large quantities, because the expected low prices next winter and spring may not materialize.



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These really remarkable Light All-Purpose Farm Tractors exactly meet eastern farm conditions, and cost, even in war times, only
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Make your farm efficient, raise bigger and better crops at less cost —and save high-priced horse feed—every horse replaced by a HAPPY FARMER TRACTOR adds 5 acres to your farm. Ask us for particulars.

THE HARTZ MACHINERY COMPANY, Distributors
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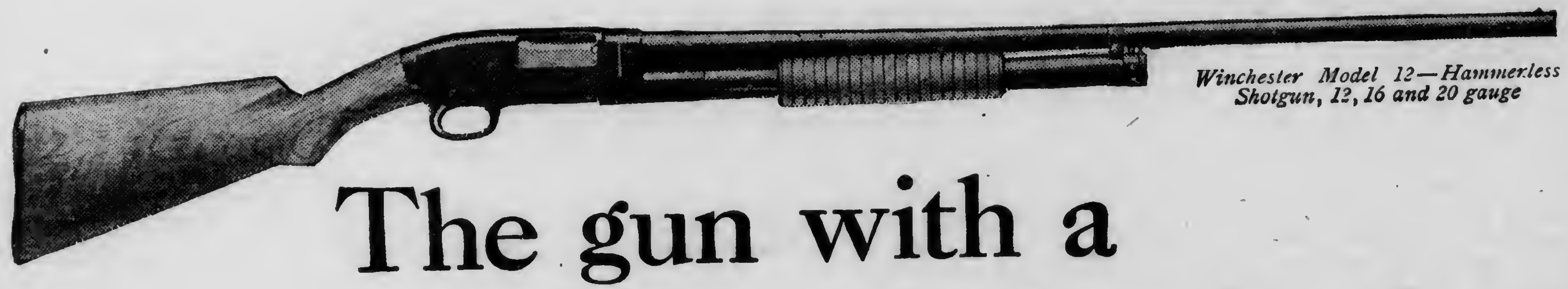


Winchester Model 12—Hammerless Shotgun, 12, 16 and 20 gauge

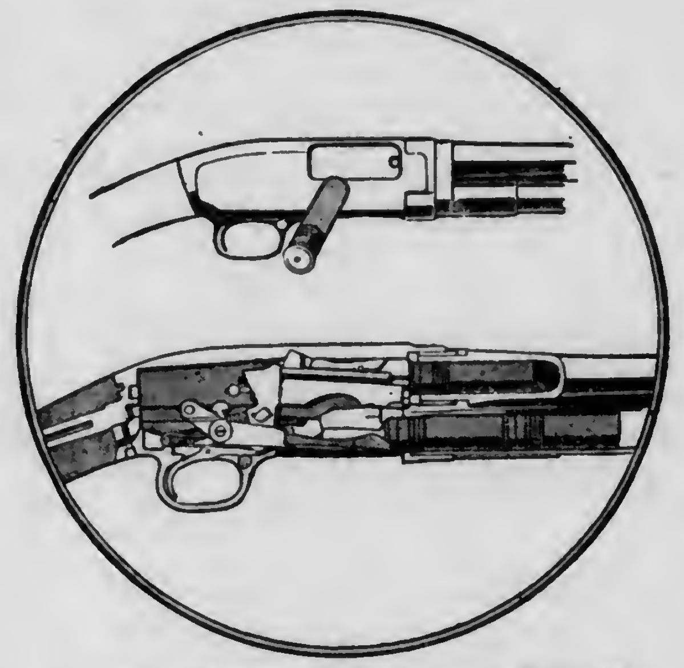
The gun with a dog's pointing instinct

A dog points by instinct. Its nose, body and tail come into line naturally—instantly. So with the hunter and his gun.

Armed with the right gun, he "points" it instinctively. If properly balanced, his gun comes up into line naturally, as easily as pointing a finger.

But if the gun is not right, if it has not been perfectly balanced in the shop, it won't work out well in practice, just as a dog, if not properly bred, will not work out well with its master in the field.

The Winchester Model 12 Repeater is a *thoroughbred* of shotguns. It has been classed by experts as "The Perfect Repeater."



Quick feeder, sure ejector. Throws empty shells to the side, out of your way

Its balance enables you to get onto fast flying birds instantly. Pointed right, it never fails to bring down the game.

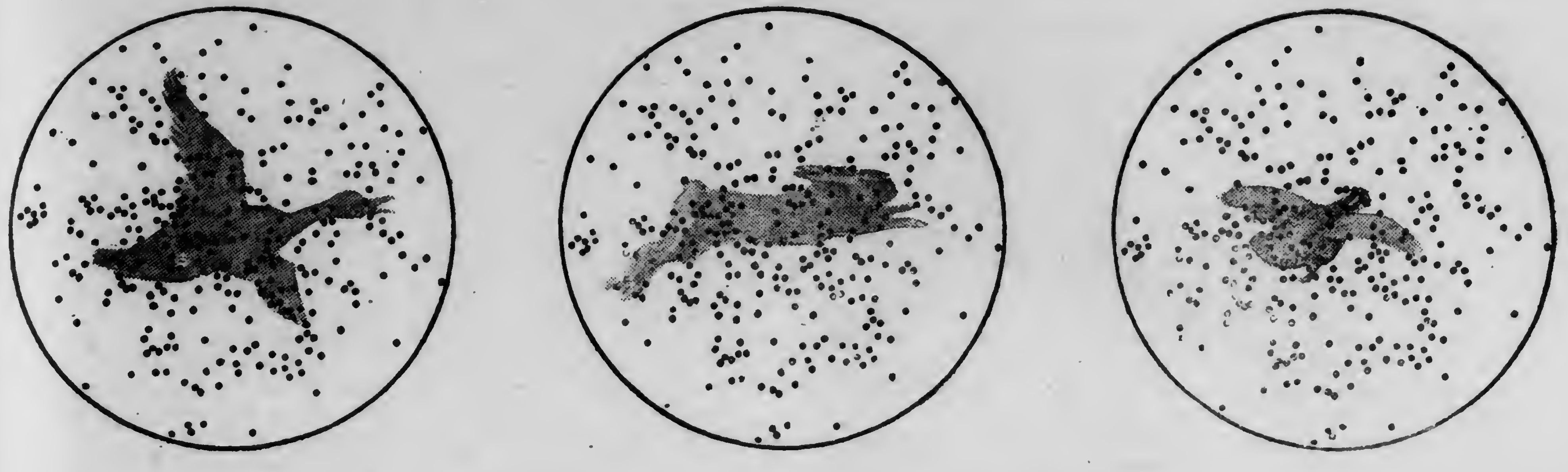
Fifty years of the best gun making traditions have produced in the Winchester Model 12 a gun of almost human instincts.

The right amount of choke for different loads has been worked out after exhaustive experiment. Result: a pattern that spreads out evenly—neither too scattered nor too bunched—and lands with lots of steam behind it.

It is a triumph of guncraft. Nicely balanced, with its slim, graceful barrel, the Model 12 is a beautiful weapon, with a fascination about it that few sportsmen can resist.

WINCHESTER

World Standard Guns and Ammunition



Even spread, maximum penetration. Winchester shot pattern brings down the game.

The pattern that brings down the game

The remarkable game-getting pattern of the Winchester Model 12, shooting its own standard ammunition, is the result of infinite care taken in boring the barrel.

The barrel *is* the gun

Men who know guns realize that the accuracy and durability of a gun lie in the barrel. On the quality of the barrel depends the quality of the gun. There is absolutely no difference in the standard quality of the barrels on the highest and lowest priced Winchester guns. With Winchester, the barrel *is* the gun, and the single standard of quality has been attained only by the most unremitting attention to the boring, finishing and testing of the barrel. The same high quality of Winchester barrel is found on every gun made by Winchester. The great volume of guns sold makes this policy possible.

The Winchester barrel

The barrel of the Winchester Model 12 has been scientifically bored to micrometer measurements for the pattern it is meant to make. The degree of choke exactly offsets the tendency of the shot to spread. Until its pattern proves up to Winchester standard, the gun cannot leave the factory. The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a distinctive blue finish that with proper care will last a lifetime. The Nickel Steel construction preserves the original accuracy forever.

What Ⓦ means

This mark on the barrel means *Viewed and Proved Winchester.* This stamp stands for Winchester's guarantee of quality, with fifty years of the best gun-making reputation behind it.

Every gun that bears the name "Winchester" and that is marked with the Winchester Viewed and Proved stamp has been fired many times with excess loads for strength, smooth action and accuracy.

At every stage of Winchester manufacture, machine production is supplemented by human craftsmanship. It is a *test and adjustment process.*

It is this care in manufacturing that has produced in the Model 12 a gun of unsurpassed game-getting qualities and whose grace, balance, beauty of lines, and never failing performances in the field have earned it the title of "thoroughbred of shotguns"—*the gun with a dog's pointing instinct.*

For those who prefer a hammer action gun, we have made the Model 97. It is built on exactly the same lines as the Model 12, but with hammer action.

Write for details of Winchester shotguns, rifles and ammunition

The Winchester catalog is an encyclopedia on shotguns, rifles and ammunition. Every hunter should have one. It gives detailed specifications of the Model 12 and describes at length the principles on which every one of the world famous Winchester shotguns and rifles is built. Write today. We will mail you a copy free, postpaid.

WINCHESTER REPEATING ARMS CO.
Dept. W S-1 New Haven, Conn.

Winchester Model 97
Hammer Shotgun

Take-down Repeating Shotgun. Made in 12 gauge, weight about 7¾ lbs.; in 16 gauge, weight about 7½ lbs. The favorite with shooters who prefer a slide forearm repeating gun with a hammer.

WINCHESTER

World Standard Guns and Ammunition

About Doing the Housework

Various Suggestions on Everyday Work

Here is a Good Manager

I am a farmer's wife; our family consists of husband and myself, a boy 10 years old, a girl 8, another boy in his fourth year, and a dear little boy whose age we do not yet count by years but by months. We live on a farm of 129 acres, we keep 10 to 12 cows, which I always help to milk. I aim to hatch and raise about 200 chicks in the spring, besides some in the late summer. We have an immense garden, which is partly worked with horse and cultivator, also a large lawn that I mow with the lawn mower. We have a large variety of fruit and berries, which is, with few exceptions, used while it is fresh or is put up for future use. I put up annually about 400 quarts of fruit, berries, vegetables and meat.

We keep a hired man whose board, washing and mending is all included in my routine. I have no help but our 8-year-old girl. I do all of the sewing except the knit underwear and the overalls that husband and our 10-year-old boy wear.

Our 4-year-old boy wears Russian suits for Sunday; they are neat and simple to make; his rompers for every day are mostly made of galatea, for it is good and strong. I make few every-day clothes for the oldest boy and girl. By buying real good material to make clothes for Sunday wear they later serve for school and still later for every day; a package of dye is often used to help make them more presentable. I buy the patterns which give different styles in one. I often use the same pattern for dresses, aprons and nightgowns of all sizes. Being what is called a "plain woman", my style is never out of date and my clothes require little planning and are very serviceable. I do not like the ready-made clothing, for the home-made ones are of better quality, better color and better fit. February is my best time to do the sewing for summer. By adding a few pieces each year to the supply of bed clothes, table cloths, tea and toilet towels, I always have enough on hand in case of sickness or emergency.

We take two farm papers, a semi-weekly paper and a weekly church paper, and I take time to look over all of them, and read the most interesting. I find some very helpful hints in the household pages.

While one woman is kept very busy on such a farm, and is often at a loss to know how to arrange the work so as to get the most done in the least time, yet I think the farm is the healthiest, happiest place to live.—Mrs. H. E. K., Lancaster Co., Pa.

Doing the Dishes, Etc., by Machinery

For 2,000 years housewives have washed dishes in the same old way, consuming three to four hours each day "doing the dishes" over and over again in the same old way, often standing on their feet working from one to two hours after the tired men folks have pulled off their boots and begun taking their ease—winter and summer, Sunday as well as any other day.

The purpose of this letter is not to intimate that the housewife is incapable of improving the kitchen, thereby lessening the work, nor yet to cast any reflections upon the ability of the housewives as inventors, but rather as a protest against the thoughtlessness of men in continuing to allow their wives to plod along using the old machinery that was used 2,000 years ago. The average wife on the farm has very little time to spare for society, to make herself look attractive; "her all" is devoted to the kitchen and the babies. There appear no advertisements of dish-washers and few of other labor-saving devices. Few have given sufficient thought to this very important subject, preferring to continue to improve the stock while they neglect the wife and mother, thus assuring the country of future generations of men and women of lower vitality. Let's hear from some on this subject thru your paper.—Mr. F. E. Bidlack, Bradford County, Pa.

(Editor's Note.—Yes, let us have a discussion of why more labor-saving equipment is not in common use in farm homes. Is it because there are no adequate inventions, is it due to the cost, to the women's aversion to using machinery and devices, to lack of really satisfactory appliances—or what?)

HOW I MAKE CORN SOUP

I want to tell you how I make corn soup. When I use chicken, I cook it (early in the morning) almost done, then place it in the fireless cooker. My fireless cooker is a lard can bought at the store for 25 cents. I placed a wad of paper in the bottom and all around the kettle, and on top a couple of inches thick. I filled in the extra space with a pillow made to fit and filled with chopped hay. Then I prepare the corn, scoring every row of grains and cutting from the cob but once, scraping out the rest with back of knife. Then I make rivels thus: Take 1 egg, a bit of salt, and stiffen with flour. On the bake board I place plenty of flour and turn on the dough, rubbing it into the flour freely until made into sufficiently small rivels. If there is a lot of flour around, I throw all into a small sieve and shake out the flour. When 11.15 A. M. comes, I take the broth from the chicken, put it in the corn and cook, making the required quantity of gravy by adding water, and, of course, seasoning to taste. At 20 minutes of 12 I add the rivels; at 10 minutes of 12 I lift it, and serve dinner at 12.

I want to add that I made this soup the other day with beef broth or gravy. I got a nice sized roast (I am feeding nine persons usually—goers, comers and stayers); boiled the meat until nearly tender, then took a skillet and in it placed a bit of lard and butter, floured the boiled meat a little, make it as round as possible and tied a string around it, then browned it nicely. When browned I placed it in my fireless cooker kettle, then I made the gravy by pouring water in the skillet in which I had browned the meat, and thickened it. Then scalding hot I poured it around the meat, and put all in the fireless. At dinner time I served the meat, and placed the gravy in the cooler to use for supper.

Sometimes I make pot-pie in the soup or noodles. The man of the house had been talking of "the pot-pie mother used to make", so I inquired of different neighbors and learned that it was made by taking an egg (or two according to quantity) to a pint of water or milk, stiffening with flour, adding a pinch of salt, then rolling as thin as paper or as thin as one can roll it, then cutting it in squares or bars. When cooked it was transparent, and "just the way mother used to make it".—Mrs. Lloyd R. Shuman, Juniata Co., Pa.

WAITING TO BE PACKED AND SHIPPED.
An order of canned fruits put up by an Ontario County, N. Y., farm woman for a rich customer. She does an annual business of about $1,500 in such orders.

FRUIT PASTES OR CANDIED FRUIT

Convert part of your fall fruits into fruit candy or "rush order" desserts. Old time Virginia housekeepers used to put up a lot of "peach and damson leather", which was nothing more or less than the fruit paste that the U. S. Department of Agriculture is urging housekeepers to prepare this fall for home and army uses. These fruit pastes make a delightful dessert served with cream cheese or nuts. They can be used to garnish cakes, custards and platters of cold meat or eaten as a candy.

They are made by boiling down fruit pulp, adding sugar and drying out slightly. Following are some directions sent out by the U. S. D. A.

Peach Paste.—Cook peaches tender and rub thru colander after draining off juice (this can be bottled and used as a fruit syrup). Allow ½ lb. of sugar to 1 lb. of fruit. Cook over slow fire until very thick. Pour paste out in thin sheet on flat dish or marble slab which has been rubbed over slightly with salad oil. Place in drying oven or in sun or draft for two days, covered with screen or mosquito bar to protect from insects. It should be dry enough not to be sticky, but not hard or leathery. Cut the paste into strips or squares or cubes or in any way desired, place on wax paper, sprinkle with granulated sugar, then dry for two days more. To store, dip again in granulated sugar and pack in boxes or jars like candy with layers of paper between.

Damson Plum Leather.—As known in Virginia, it is made without straining, the skins being left in, and the pulp dried as above. The sheet paste is then sprinkled with granulated sugar, rolled like a jelly roll, and cut into slices. Dip these slices in granulated sugar and pack in jar.

Damson Plum Conserve.—For 4 lbs. plums allow 3 lbs. sugar, 1 lb. shelled nuts, 2 oranges and 1 lb. raisins. Remove the seeds and chop the plums. Peel the oranges and slice thinly one-half of the peel. Discard the other peel and the seeds. Mix chopped plums, orange plup, sliced peel, sugar and raisins. Cook all together rapidly until bright and thick as jam. Add nuts five minutes before removing from the fire. Remove from fire, cook and pack into jars, and seal with paraffin.

Apple Conserve.—To 1 lb. apples allow ¾ lb. sugar and ½ pt. water. Simmer the apples, quartered and peeled, in syrup until clear. Dry in sun until no longer sticky. Roll in granulated sugar and pack in tin boxes or glass jars, in layers with wax paper.

Fancy Variations.—These are only a few suggestions; there are endless varieties and combinations that can be worked out with these pastes. Use different fruits or pastes, dry partly and arrange in layers like layer cake. Or vary the layers by adding finely cut citron, candied peel or blanched nuts. With apple pastes different colorings and flavors can be used. Where fruit is abundant, fancy packages of these pastes might be put up for Christmas presents or church bazaars.

DRIED APPLES VS. CIDER

To Save Culls

Cider making and drying are probably the most popular methods of utilizing cull fruit.

As to which is most likely to be profitable, it may be noted that one bushel of fairly good apples should yield 6½ to 7 lbs. of dried fruit evaporated to a moisture content of 25 percent. In a well-equipped factory, this can be accomplished at an average cost of about 2½ cents a pound, but at the home it will doubtless cost at least 5 cents. If the slicing, bleaching and drying are well done, the resulting product should be worth at least 8 to 10c a pound at home. This product requires no expensive containers, can be stored in small space, and will keep almost indefinitely under proper conditions. The original fruit can thus be converted into a relatively stable food, and can be made to yield a return of about 25 to 30 cents a bushel.

One bushel of well-ripened apples should yield about two gallons of cider if made with a good home press, and about four gallons with a first-class power press. This cider should be worth about ten cents a gallon, and hence would yield a return of 20 to 40 cents a bushel on the original fruit, minus the cost of making, which should be relatively small. The cider can then be carried over into vinegar, or it may be pasteurized and kept sweet indefinitely. The pasteurizing is best done by heating the fresh cider to 149 degrees F. for one hour, and then sealing in sterilized containers.

Further information on this general subject can be obtained in Extension Circulars 44 and 62 of The Pennsylvania State College and in Farmers' Bulletin 291, obtainable on request from the Secretary of Agriculture, Washington, D. C. Detailed information on the commercial evaporation of apples may also be found in Bulletin 131 of the Agricultural Experiment Station, Pullman, Washington.

ECONOMICAL WAYS OF COOKING POTATOES

Whenever the water in which potatoes have been cooked is drained off into the sink one-fifth of the amount of iron which this vegetable contains is wasted. Those methods of cooking

whereby this liquid can be utilized are therefore most economical. The following recipes for cooking pared potatoes suggest ways of saving the largest amount of food value possible:

Emergency Potato Soup.—Pare thin and slice two medium-sized potatoes and cook in 1 quart of boiling water. When almost done add 1¾ teaspoonfuls of salt. Slice very thin the equivalent of one slice of bread and drain over this the water from the potatoes when done. Mash the potatoes and add. Cut three slices of bacon into half-inch pieces and fry until brown. Add the bacon and fat and reheat the mixture, allowing it to simmer about two minutes. This recipe will make three servings.

Buttered Potatoes.—Pare and slice three medium-sized potatoes. Cook in 2 cups of boiling water, to which 1 tablespoonful of butter has been added. when almost done, season with salt and pepper. There should be only a little liquid left when the potatoes are done. Serve hot.

Potatoes with Bacon.—Pare potatoes and cook in a small amount of water. Season with salt. When the potatoes are almost done transfer them along with the liquid to a baking dish. Over each potato place a thin slice of bacon and bake in a hot oven until the bacon becomes brown. The bacon gives the potatoes an excellent flavor.—Mrs. Ellis L. Kirkpatrick, Tompkins Co., N. Y.

OUR SCREENED PORCH

We had a fine side porch, 20 feet long, but the mosquitoes put in their little bills with such effect that we could not sit there with any comfort in the evening. It would cost not less than $20 to screen it in with wire netting, so for $5 my daughter screened us in with some thick, close-meshed black mosquito netting. She sewed the selvaged edges on the machine to make it the right length, and tacked it tight top and bottom to the wood-work of the porch. When fastening it on, she laid a strip of white tape upon the netting, so that the heads of the tacks would not work thru the meshes. Now we thoroly enjoy our quiet resting place outside, and smile at the mosquitoes, who buzz around in a wondering way, trying to find an entrance.—Mrs. L. DeArmond, Delaware Co., Pa.

A DELICIOUS AND WHOLESOME FILLER FOR SANDWICHES

Two cups of seeded raisins; ½ cup of strained orange juice; 2 tablespoons of lemon juice; 1 level teaspoonful of salt; 1 cup of nut meat or peanut butter. Wash and dry raisins. Put thru grinder. Add fruit juice, salt and nuts or peanut butter. If English, black Walnuts or pecan nuts are used, crush them thru grinder. Mix the entire mass until smooth and store in jelly glasses until used. This filler will keep a long time, sweet and fresh. It supplies a quantity of iron for those who require it. The sandwiches are tasty for all occasions.—A. L. R.

KEEP THE PAINT BRUSH CLEAN

It pays to buy a good paint brush and then keep it in first-class condition. There is nothing better to clean and remove paint from the bristles than coal oil. Clean the brush thoroly after using and hang it up to dry. A little wire ring inserted thru the end of the handle makes an efficient loop to hang the brush to a nail, and it is always ready and workable for the next time.

Varnish Flow

Varnish must not be brushed and worked like paint, but "flowed" in a smooth, even coat. To get that result keep the varnish can immersed in a pot of warm water while using and note how easy it is to "flow" the varnish to an even, glossy surface.—A. L. R.

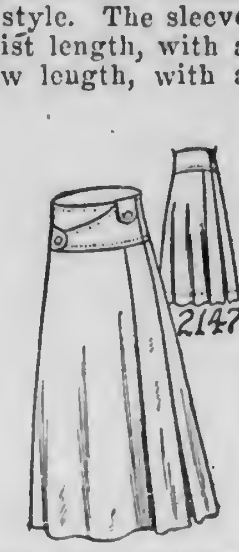
PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

2195.—A Group of Sleeves.—Pattern includes all styles illustrated and is cut in 4 sizes: Small, 11 inches; medium, 13 inches; large, 15 inches, and extra large, 17 inches arm measurement. Medium size requires, for one pair of sleeves, 1⅛ yards for No. 1, 1⅜ yards for No. 2, 1⅜ yards for No. 3, and 1⅜ yards for No. 4, of 27-inch material. Price, 10 cents.

2182. — Smart Shirt-Waist. — This waist will be very attractive in white crepe, batiste or crepe de chine, and in any of the soft pastel colors. The closing is at the side front. The sleeve is new and attractive. Pattern is in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 3 yards of 36-inch size. Price, 10 cents.

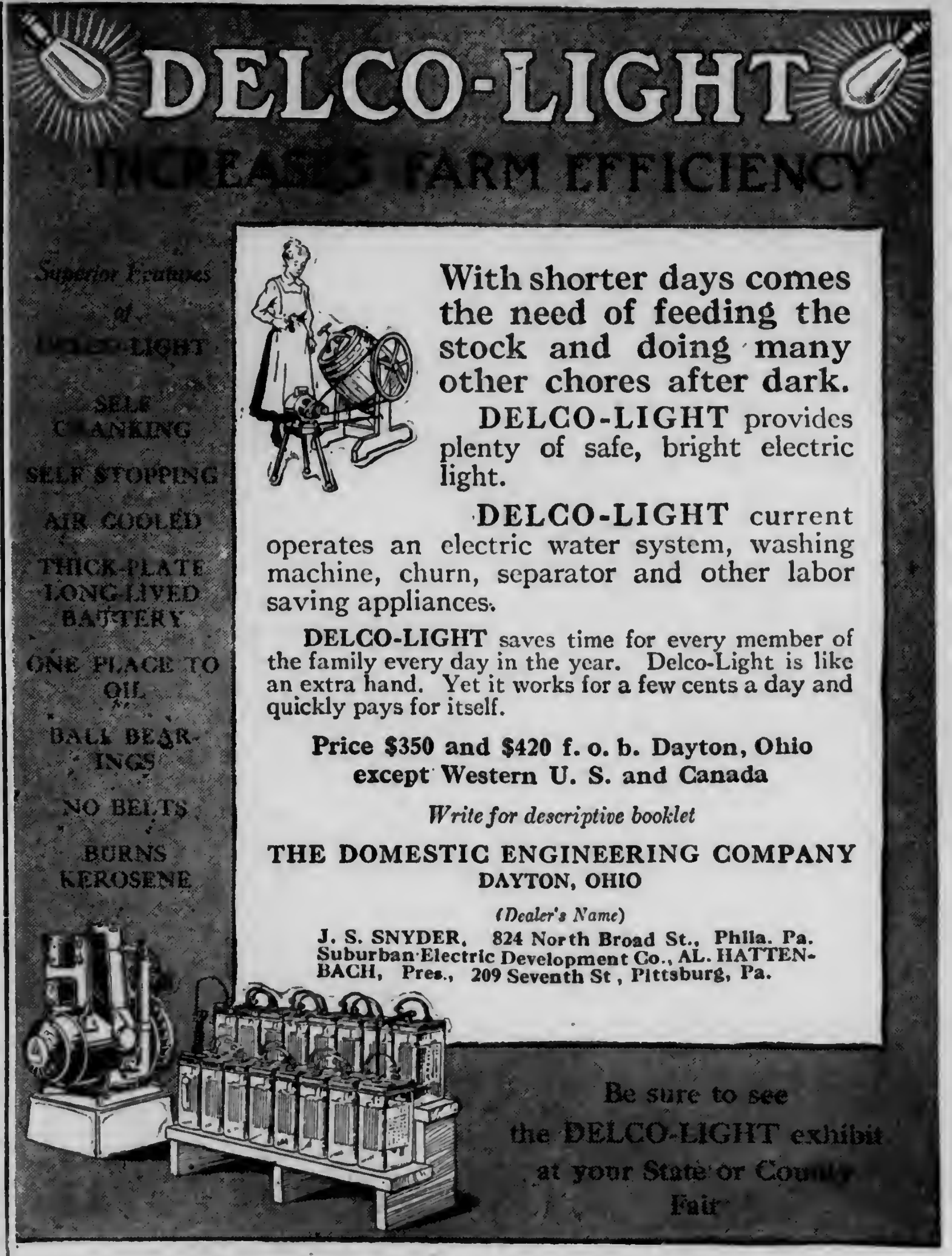
2155.—Novel Shirtwaist.—The fronts are lapped in surplice style. The sleeve may be finished in wrist length, with a deep cuff, or, in elbow length, with a turn-back cuff. Pattern is in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 3 yards of 36-inch material for a 36-inch size. Price, 10 cents.



2147.—A Smart Skirt.—It measures a little over 3½ yards, with plaits drawn out. It has plait sections over the sides and is mounted on a shaped yoke, which is trimmed with a shaped belt or girdle portion. Patter is in 6 sizes: 22, 24, 26, 28, 30 and 32 inches waist measure. Size 24 requires 4¾ yards of 36-inch material. Price, 10 cents.

2172.—A Fall Cape.—The fronts are turned back to form revers and meet a broad, shaped collar. Broadcloth, cheviot, velour, zibeline, velvet, corduroy, satin, silk and serge may be used for this style. Pattern is in 4 sizes: Small, 32-34; medium, 36-28; large, 40-42; and extra large, 44-46 inches bust measure. Medium size will require 6¼ yards of 48-inch material. Price, 10 cents.

2181.—Pretty Skirt for Soft Fabrics.—The heading may be omitted; the pockets also. The skirt measures about 2⅜ yards at the foot. Pattern is in 6 sizes: 22, 24, 26, 28, 30 and 32 inches waist measure. It requires 3¾ yards of 36-inch material for a 26-inch size. Price, 10 cents.



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INCREASES FARM EFFICIENCY

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SELF STOPPING
AIR COOLED
THICK-PLATE LONG-LIVED BATTERY
ONE PLACE TO OIL
BALL BEARINGS
NO BELTS
BURNS KEROSENE

With shorter days comes the need of feeding the stock and doing many other chores after dark.

DELCO-LIGHT provides plenty of safe, bright electric light.

DELCO-LIGHT current operates an electric water system, washing machine, churn, separator and other labor saving appliances.

DELCO-LIGHT saves time for every member of the family every day in the year. Delco-Light is like an extra hand. Yet it works for a few cents a day and quickly pays for itself.

Price $350 and $420 f. o. b. Dayton, Ohio except Western U. S. and Canada

Write for descriptive booklet

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135 Acre Farm $5600
Corn Crop 2000 Bushels

Last season and has averaged 300 bushels tomatoes to the acre. Only half mile to village, high school, milk station, canning factory and Auto Bus line for passengers and freight to city of 600,000, over state road all the way. 75 acres dark loam soil in high state of cultivation, balance valuable woodland and wire fenced pasture. Bearing orchard of apples, pears, cherries and peaches, 2-story house with telephone, fine shade and pleasant views. Slate roofed barn. Owner having other business makes quick sale price of $5600, and if taken soon throws in pair horses, cows, hogs, poultry, farm tools, etc. For details see page 26, Strout's catalogue. Copy mailed free.
E. A. STROUT FARM AGENCY,
Dept. 1765, Land Title Building, Philadelphia, Pa.

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HOOSIER STOVE CO.
132 State St., Marion, Ind.

Disagreeable Work Made Easy

Most women detest washing dishes. You can make this work easier and do it quicker by sprinkling a little 20 Mule Team Borax in the water. This Borax softens the water, cuts the grease, helps the soap to do its best work and puts a fine polish on china and glassware. You will find many uses every day in your kitchen and laundry for

20 MULE TEAM BORAX

It will lighten your work on wash days. It will make your clothes white and sweet smelling. Use it in the bath tub to soften the water, cleanse the pores and destroy perspiration odors. There's nothing better for cleansing milk cans when they come back from depot or creamery.

20 Mule Team Borax Soap Chips

Soap in chip form. Saves you soap cutting. Blended in the right proportions, one part Borax to three parts of *pure* soap. *Not* a substitute for Borax but a time, labor and money saver that will pay you to use every wash day. See the picture of the famous 20 Mules on each of the above packages.

Sold by all dealers.

Farm Products Prices and Prospects

MAKE APPLE CROP FIT THE MARKET

Uncle Sam Will Help Sell Apples by Recommending Them

Uncle Sam takes the keenest interest in this year's apple crop. For the fruit must be used to help save wheat and meats for our allies. The Food Administration is planning a consumer campaign of publicity thruout the country.

This year's apple crop calls for intelligent handling. The latest government reports indicate a crop of about 190,000,000 bushels. That is a little below normal. Good prices are assured for all honestly-packed first quality apples and also for honestly-packed selected second grades, which government experts say can be put into storage. When the crop is big it does not pay to store second grades, but this year, despite the fact that we cannot ship our usual 2,000,000 barrels of apples abroad, because shipping space is precious, we should be able to get fair prices for all good apples at home.

Careless packing of poor-quality fruit has always been one of the chief causes of market instability and unsatisfactory prices to the growers. This year the whole apple industry is co-operating to remove this market handicap. There has never been an apple year such as this one is going to be. Growers have never been able to get together and engage and finance a national educational campaign among consumers to increase apple consumption. This year the situation makes it necessary for the United States government, thru the Food Administration, to conduct a consumer's campaign of publicity on behalf of the apple. This campaign will begin while the crop is being sent to market, and will probably continue until the last apple is eaten up late next spring.

GENERAL CROP CONDITIONS

The Government's weekly crop and weather report contains the following:

Corn needs warmer weather in south and west.

In many sections of the Northwest the yield and quality of spring wheat was better than was anticipated.

It was too cool in central districts for development of crops, especially corn, and cool nights the latter part of the week were detrimental to cotton in many places.

The warm weather that prevailed in the northeast was very beneficial. The rainfall was sufficient for present needs in central and lower Mississippi valley and the lower Great Lake region. Rain is needed in many eastern and most northern and extreme western sections. Some damage was done by frost in the extreme north.

Threshing of wheat continues, and fall plowing is under way in central and northern regions. Some seeding of wheat has been done in Oregon and the Dakotas.

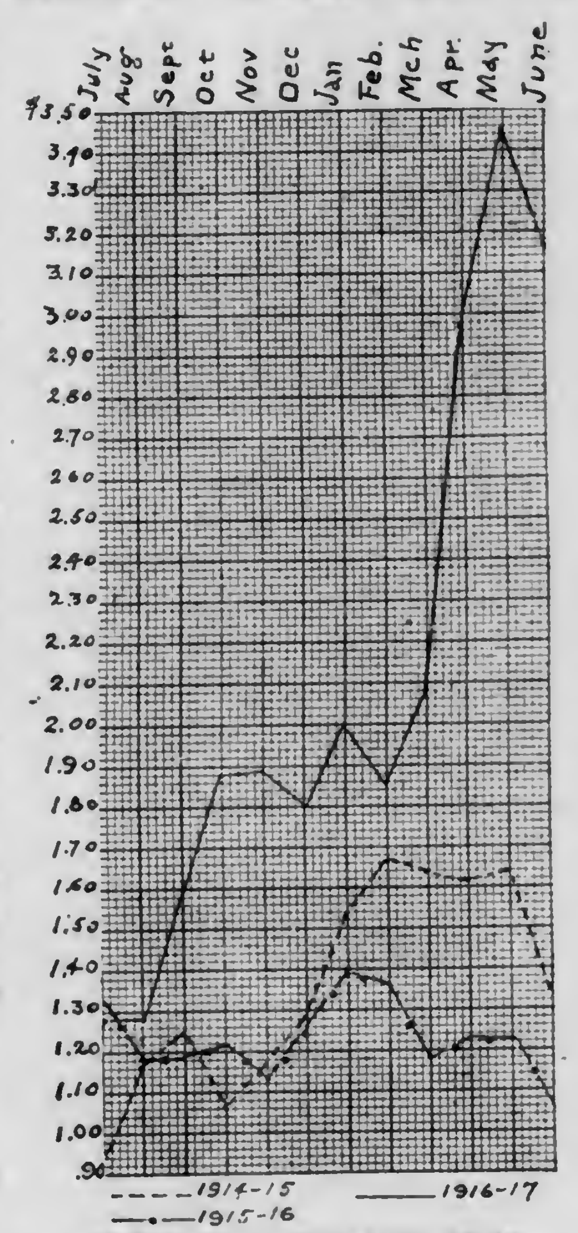
Weather conditions were favorable for the development of white potatoes in most sections in central and northern states, except the need of rain in some sections and frost damage in extreme north. Late blight has appeared in New York state and this disease is doing a great deal of damage in northern Maine where the crop will be seriously reduced.

The weather is favorable for the ripening and harvesting of tobacco, and cutting and curing are in progress in many sections. It was too dry and cool for this crop in Wisconsin to make best development.

Conditions are favorable for harvesting alfalfa, which has made a good crop.

FLUCTUATIONS IN WHEAT PRICES

The accompanying chart shows the highest cash price of No. 2 wheat on the Chicago market for each month of the past three years. It is interesting to note the similarity of prices at and immediately after harvest time regardless of prices before or after that time. Since most of the wheat crop is threshed and marketed during that period, the question naturally arises as to whether the law of supply and demand actually causes the drop at that time, or whether buyers all become "bears" at that season of the year. It will be seen that the highest prices in all the years were reached after January 1. However, the food control law must be taken into consideration now, and no one can say at this time whether previous market activities will be repeated next year or not.



WHEAT PRICES PER MONTH FROM JULY 1, 1914 to JULY 1, 1917

WHAT THE FOOD PRODUCTION LAW PROVIDES

Following are the vital provisions of the Food Production law as enumerated by the U. S. Dept. of Agriculture.

The sum of $11,346,400 to be used in stimulating production, for protecting and conserving foods, and for a survey of the country's food resources.

Staff of county agents to be increased until at least one agent will be stationed in practically every agricultural county in the United States that will co-operate with the department and the State Agricultural College.

Women county agents for demonstration work in home economics to be increased in rural counties and similar agents to be placed in towns and cities for first time.

Farm-help service to be extended in co-operation with U. S. Department of Labor to assist in bringing farmers and farm laborers together.

Country-wide survey to be made of food on farms, in storage, in shops and in homes. Estimates of family consumption of food to be made.

Extension of crop estimating to crops not hitherto reported and to include special inquiries to gather information on extraordinary farm conditions.

Hog and poultry production to be stimulated as far as practicable.

Increased production and conservation of dairy foods to be encouraged.

Animal diseases to be combated on larger scale.

Increased efforts to be taken to destroy animal pests and predatory animals which injure crops and kill live stock.

Work for the control of plant diseases to be extended.

Survey of seed supplies and needs to be made and results published so that farmers will be assisted in obtaining a sufficient supply of good seed. Seed to be purchased and sold to farmers by the department if necessary in restricted areas.

Demonstrations to be carried out in the proper handling, packing, shipping and marketing of perishable fruits and vegetables to decrease spoilage.

News service for various farm products to be extended so that producers and consumers can be better informed as to the supply and demand and can sell and buy with less expense, less spoilage, and less lost motion.

COMMERCIAL ACREAGE AND PRODUCTION OF CABBAGES

Following is preliminary detailed estimates by states of total production of cabbage in 1916, and of acreage planted in 1917, with a forecast of production based upon the condition of the crop as reported August 1, 1917, issued by the U. S. Bureau of Crop Estimates:

	Acreage planted 1917	Forecast of production 1917	Production 1916
New York ...	36,900	369,000	96,120
Virginia	1,900	19,380	6,390
Ohio	3,600	43,200	11,600
Indiana	1,700	16,660	3,850
Michigan	5,200	58,760	17,040
Wisconsin	13,000	157,300	57,960
Minnesota ...	2,400	24,720	9,600
Iowa	1,900	14,820	11,050
Colorado	3,900	44,070	32,960
Total	70,500	747,910	246,630

NEW YORK'S CROP INCREASE

The New York State Food Commission has issued a very comprehensive report, showing the increase of planting in New York this year and other facts on our changed agricultural conditions.

The acreage of meadow other than alfalfa has decreased 110,000 acres because meadows have been plowed for other crops. All other crops have increased 13 percent. An interesting feature of this is an increase of 414.7 percent since 1909, or an increase from 35,343 to 181,912 acres. The following are the percentages of increase: Corn for grain, 47.2; oats, 13.5; winter wheat, 12.6; spring wheat, 162.1; barley, 20.8; buckwheat, 16.3; beans, 42.1; cabbage, 77.1; potatoes, 25.2.

It is safe to say that New York will show a general increase of 25 percent.

It is very clear that New York farmers are doing their duty working hard and long hours. They cannot observe an eight-hour day and plant and harvest their crops.

In 1916 there were 102,153 farm laborers, this year the number is reduced to 86,244. Today there is only one hired man for every two farms which means that on one-half the farms the owner and his family are doing all the work.—F. R. Stevens.

STEADYING POTATO PRICES

Unusual facilities for financing storage are offered American potato growers as a result of war conditions. The Federal Reserve System is at their disposal, and farmers who store their 1917 potato crop in approved local warehouses may obtain, upon their storage receipts, ninety-day loans from member banks of the Reserve System at a rate not to exceed six percent.

New England growers have started a movement to take advantage of this ruling to help them solve their marketing problem. The growers communicated with local authorities in their respective states, who in turn laid the situation before the Food Administration. A conference between the growers, local authorities and experts from the Food Administration was held recently at Boston, Mass. A plan of action was mapped out at this meeting which includes the following:

1. Marketing of only one-third of the crop at harvest time; another third in ninety days, or placing in storage and later distributed as demand affords oportunity; the remaining third to be stored by the grower and marketed thruout the year.

2. All potatoes to be graded with care, taking out culls, cuts, cracks and any that are bruised. It was recommended that a wire screen grader be used—one and seven-eighths-inch mesh for oblong tubers and two-inch mesh for round ones. Graded stock then to be placed in good two-bushel sacks—one hundred and fifteen pounds to the sack—and the sacks sewed tightly so as to prevent shucking and bruising.

3. Increasing the load in each railroad car from the normal 30,000 pounds to 45,000 or 50,000 pounds. That these cars can be unloaded within twenty-four to thirty-six hours of their arrival at destination.

4. That municipalities and other bodies provide storage for as large quantities as possible at the peak of the harvest.

"A storage house," said Lou D. Sweet, who attended this meeting, "such as will conform to the requirements laid down by the Federal Reserve Board, does not call for a specially constructed house. There are innumerable buildings, which, if properly cleaned, ventilation provided, and managed so as to maintain a temperature of about thirty-five degrees, will answer admirably for this purpose."

Poultry

MARKETING TURKEYS

Turkeys are great foragers and require little feeding after the first of July, providing, of course, that they have free range like most farm flocks have. As soon as frost comes, however, when nearly all insect life will disappear from the range, the birds that are to be marketed this fall must be fed daily. The flock will likely come up of its own accord and stay rather close thereafter to the poultry yard where feed is abundant. If any of the birds are still inclined to stray far afield, they should be driven up several evenings in succession and treated to a generous feed each time, and they will soon learn what is expected of them.

The birds that have had a wide range during the summer will have very little fat when first brought up, but most of them will have large frames and so will be in good condition to lay on fat rapidly before the holidays arrive. For the first ten days or two weeks after feeding commences, the ration should be somewhat limited in order to prepare the market birds for the liberal feeding that is to follow without any danger of cropbound or indigestion resulting. Altho turkeys are hearty eaters at all times, when preparing them for heavy feeding start in by allowing only as much feed as the birds will clean up in a few minutes. Increase the ration gradually day by day, and in a short time the birds may be given about all the corn and other grains, as oats, wheat and barley, they will eat. More corn, preferably old, should be given than all the other grains combined. Some raisers use new corn instead of old, but there is always danger of liver and bowel trouble when new corn is used. Even tho this does not result directly in the loss of any of the turkeys they will never fatten well afterward. The various grains can be fed in ground form, mixed with sweet skim-milk until a crumbly mush results, to good advantage occasionally. Vegetable food should be provided once or twice a week. It pays to vary the food for fattening turkeys in order to produce a keen appetite on the part of the birds. Give three times a day all the feed they will clean up, and no more; they must not be overfed at any time. Furnish sharp grit and pure drinking water near the feeding grounds.

It is seldom advisable to confine the fattening birds in any way so that they are deprived of their natural freedom. They will not be inclined to roam much anyway after liberal feeding is commenced, and what little roaming they do will afford them the needed exercise for keeping in a healthy condition. If necessary to confine any of the birds let it be the ones that are to be kept for breeders, which should always be selected from the flock at this time when the very best individuals can be picked out and kept over.

By Thanksgiving, or Christmas at least, the market turkeys should be fine, large birds ready to command the highest prices. The Christmas market is usually just as good in most parts of the country as the Thanksgiving market and, therefore, it pays to hold all birds that are not in prime condition and fit them for the Christmas trade, when they will return a greater profit to their grower. The early-hatched gobblers are usually ready for the Thanksgiving trade, as they are fatter then than they will be later. But oftentimes it is better to keep the hens and the gobblers from the late-hatched broods a little longer. The hens will gain in weight right along for a month or two and the price received in December is just as good or even better than November prices. —Wm. F. Purdue.

TURKEYS THAT WON'T TRESPASS

In closely settled farming sections the raising of turkeys has been almost abandoned, because of their tendency to stray and their consequent depredations on crops. This has been true because the Bronze turkey had been about the only turkey to receive attention. Because of their large size and hardihood they dominated the turkey world for many years. Their stealthy, furtive habits, their shyness and gadding tendencies began to operate against them when the country came to be closely settled. They are still the sovereigns of the industry in the west and south where there is room for their development.

We tried them for several seasons quite a number of years ago, but gave them up because their wandering led to loss by wild animals. For many years we thought we could not keep any turkeys, as we did not wish to annoy our neighbors by so doing.

But recently we were persuaded to try a trio of White Hollands for one season. We find them very domesticated, unexpectedly so, as we had thought all turkeys would stray. I don't believe one of the trio has been over fifteen rods from the buildings this season. As the grain is brought in from the fields we are trying to teach them to glean after it, but they required real training to do it. The fields are some distance away and they would never have found these food supplies unassisted.

They laid their first clutch of eggs early, in the henhouse, where they spend much of their time. After their poults were strong and self dependent, each mother began laying again, one in a clump of bushes near the henhouse, another in the grass about four or five rods from the house.

When they hear the call to the hens for the feeding hour they leave the nest and come for their rations and are no trouble at all as sitters or as mothers.

The extreme wet weather of the early spring was very hard on the poults, but the survivors are strong and growing fast now. The second hatch is much better and conditions are now ideal for rapid growth of the little ones. I had feared the white turkeys would not be strong and vigorous, but I find I was mistaken. They keep in fine thriving condition on very little feed, their crops showing full at night, before the feed bucket is brought out. They seldom remain to the finish when they share the hen's meal, and I believe will make growth very economically. Personally I should say the White Hollands are ideal for present day Eastern farm conditions, and in the great need of poultry meats they may well be considered.—F.

THE MOST POPULAR AND PROFITABLE BIRD.

THE SPARROW PEST

The common sparrow will become one of the greatest pests of the poultry yard if given the least encouragement and once established they are hard to get rid of. Not only do these little pests consume a great deal of feed, but they also foul the feed and water containers making the premises generally dirty. They also are one of the chief carriers of pests from one flock to another. Many a flock receives their first lice from the sparrows.

The only way to keep them down is to cover all windows and muslin openings with three-quarter-inch-mesh poultry netting. A larger mesh will allow them to crawl thru. The wire should be tacked over all large openings on the outside of the window frame where the screens open inward and on the inside of the frame where the windows open outward. Where the windows open outward it will be necessary to use sash adjusters passed thru the wire and fastened to the sash or else tack the wire to a frame that can be removed when it is necessary to adjust the windows. The former method will be found the most satisfactory.

The wire not only prevents the sparrows from entering, but also stops the fowls from flying out thru the windows when confined to the house. In the case of glass sash the wire will protect the sash, saving many a light of glass from tool handles and other knocks.

With all the openings wired and all feeding done inside the house the sparrow pest will soon disappear, but if the grain is fed on the ground outside of the house they will soon be found in large numbers.—J. Raymond Kessler, Chester County, Pa.

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Sept. 3, 1917.

Weather conditions of the past month have greatly reduced the crop of white potatoes in New Jersey and the continued drouth is also hindering the growth of the sweet potatoes. Perishable fruits and vegetables are commanding the attention of the growers and white potatoes are in rather light supply on the market. Prices are holding firm and the market is fairly active. Prime New Jersey stock of white potatoes offered in ⅝-bushel baskets are selling at 75 to 85 cents and second grades at 40 to 50 cents. The Giant variety offered in bulk is selling at the rate of $1 per bushel and other varieties at from $1.05 to $1.20 per bushel. There appears to be a better demand for barrel stock from the Eastern Shore and Maryland with some shipments from Maryland selling up to $3.75 per barrel. Eastern Shore potatoes of first quality sold at $3 to $3.50 per barrel and seconds sold at $2 to $2.50 per barrel. Earlier estimates of unusually large crops are being changed by the drouth in the Middle Atlantic section and by a wide spread of blight in Maine.

The market on sweet potatoes is easier under increasing supplies and prices a shade lower. Eastern Shore shipments of first grade sweets are selling at $3.75 to $4.50 per barrel and second grades at $2 to $2.25 per barrel. Jersey sweets are increasing in supply and selling at $1 to $1.50 per ⅝-bushel basket for firsts and 50 to 75 cents for good second grades.

Vegetables

Tomatoes are possibly the vegetable in the heaviest supply on the market at this time. Prices are low because of an excess supply and canners are buying large quantities at 35 to 40 cents per basket. Sales on smaller lots are made at 40 to 60 cents with a few extra fancy quality exceeding quotations. Second grade tomatoes are selling principally at 20 to 30 cents per basket.

Corn has been in lighter advance. Pennsylvania sugar corn of good quality is selling readily at $1 to $1.25 per hundred ear and when fancy and well graded sells at $1.50 per hundred. Good Jersey corn is scarce and the average offerings are of poor quality. Prices vary from 30 to 60 cents per basket.

After a long spell of low prices the cabbage market has become steady and is at least paying cost of production. Jersey cabbage is meeting with fair demand at 20 to 30 cents per basket and Pennsylvania cabbage at $1.25 to $1.75 per barrel. Jersey onions are meeting with a steady market when fancy at 90 cents to $1 per basket for yellow stock. Fancy white onions are moving out at $1 to $1.25 per hamper and white picklers at $1.50 to $1.75 per hamper. Yellow stock from New Jersey, packed in bushel hampers, is selling at $1.15 to $1.40 and in 100-lb. sacks at $2 to $2.50 per sack.

Both green and wax beans are in plentiful supply and the movement is draggy with prices lower. Average sales on green beans are running from 35 to 60 cents and a few exceptional lots of young beans are selling at 75 cents per ⅝-bushel basket. Wax beans are moving at practically the same prices as green stock. Lima beans are in fairly heavy supply with prices lower. Jersey baskets of fancy limas are selling at 80 cents to $1.25 but some inferior stock is going out at 50 to 60 cents per basket.

Bunch beets continue to meet with a steady demand and the market is firm at $2 to $3 per hundred bunches. Carrots are more than ample in supply and sales are slow at $1 to $2 per hundred bunches. Packed in hampers, Jersey carrots are selling at 75 cents to $1 per hamper. The demand for radishes is somewhat improved and sales are largely at $1.50 to $2.50 per hundred bunches.

Eggplants are more plentiful and at the present time are a glut on the market. Good eggplants are being sold at 15 to 25 cents per ⅝-bushel basket. Squash are also in excess supply and selling at 15 to 25 cents per basket. Cucumbers when fancy are selling at better prices but much of the stock offered is yellow and discolored. Jersey cucumbers are selling at 25 to 60 cents per ⅝-bushel basket for desirable stock. New York State cucumbers are showing good quality and sales are made at $1.25 to $1.50 per bushel. Peppers are meeting with poor demand and the market is from 20 to 25 cents per basket. The long finger-shaped peppers sell at 40 to 50 cents per basket and tomato peppers at 60 to 65 cents per basket.

Fruits

Peaches are in very heavy supply and prices rule low. Trading was light at the close of last week on account of great numbers of people being out of town to remain over Labor Day, and the limited demand brought prices down to a low level. Elbertas and Champions are selling at the opening of this week's market at 50 to 65 cents per 16-quart basket and Belles are going out at 40 to 50 cents per half-bushel basket. Great quantities of the Belles were green and unattractive in quality so that sales were made as low as 25 cents per basket in large lots. Crate stock is selling low, mostly at 75 cents to $1.25 for all three of the leading varieties. Outside markets eem very limited this year, there being a general heavy supply thruout the East.

The canteloupe market is firm under present limited supplies. Jersey basket stock is selling at 50 cents to $1 for fancy grades, altho some inferior shipments are selling down to 35 cents per basket. California turlocks continue to show fine quality and the two-third crates are selling at $1.50 to $2.25; pony crates, $1.40 to $1.75; flats at $1.50 per crate of 12 to 15 canteloupes.

Barreled apples are in limited receipts and the market is strong on fancy grades of the eating varieties. Jersey stock is showing poor quality on which sales are draggy. Fancy Wealthy, Blush and Rambo are selling at 75 cents to $1 per basket and other quality is moving hard at 50 cents a basket. Second grades are slow sellers and the less desirable varieties are moving hard at 25 to 35 cents per basket.

Bartlett pears, when fancy, are selling at $1 to $1.75 per ⅝-bushel basket. Seckels put up in bushel hampers are selling at $1.25 to $2 per hamper. Blackberries are in limited supply on the market and sell at 10 to 12 cents per quart. Red raspberries are holding steady at 7 to 10 cents per pint. The market continues firm on huckleberries at 10 to 14 cents per quart. Delaware grapes packed in the eight-basket carriers are selling at 75 to 90 cents per carrier. In pony baskes, the sales are from 9 to 13 cents.

The watermelon market is slow and very draggy. Sales on Jersey melons are mostly at $15 per hundred, altho the range of the sales is from $8 to $25 per hundred. Carlots are selling from $50 to $200 per car.

Poultry

Live fowl of desirable size and quality was in fair request and sales were steady at 23 to 25 cents per pound. Spring chickens from Jersey and other near-by sections were in good demand at 25 to 28 cents per pound and Western springers sold at 22 to 25 cents. Old roosters were in fair supply and met with good sale at 15 to 17 cents per pound. Live ducks were scarce but the supply was ample to meet the demand at 17 to 19 cents per pound.

Dressed fowl met with good request and the market sold up well on all desirable stocks. Fancy dry-picked fowl weighing 4 to 5 pounds apiece sold at 24½ to 26 cents per pound; lighter weights, 21 to 24 cents. Spring chickens were in strong demand for fancy quality and stock averaging 1½ to 2 pounds apiece sold at 30 to 35 cents per pound. Ducks were good sellers at 20 to 22 cents.

Eggs

The market on good, strictly fresh eggs is strong at advanced prices. Near-by firsts are selling at 41 cents per dozen; near-by current receipts, 40c; near-by seconds, 36½ cents. Western extra firsts are selling at 41 cents; firsts, 40 cents; seconds, 36½ cents. Southern shipments of fresh eggs are going out at 38 to 39 cents.

—Selmarad.

LANCASTER PRODUCE

Lancaster, Pa., Sept. 3, 1917.

One of the largest markets in our history was held Saturday morning, due to a general close down of business here on Labor Day. The large supply of peaches met a ready demand, and prices ranged from 60 cents to $1 a basket. Eggs were scarce and the top price was 45 cents with the average asking price 42 cents a dozen.

Butter and Eggs.—Butter, creamery, 50c lb; country butter, 48@50c lb; fresh eggs, 40@42c dozen.

Poultry. — Old chickens, dressed, $1@1.25; young chickens, dressed, 75c@$1; live chickens, $1.50@2 per pair; live chickens, old, 18c per lb.

Vegetables and Fruits.—Tomatoes, 50@60c basket; do., 12@15c ½-pk; new turnips, 5@10c ½-pk; carrots, 5c bunch; potatoes, 12@18c ½-pk; do., $1.10 bu; sweet potatoes, 30c ½-pk; cabbage, 2@8c head; pickles, 40@60c cwt; eggplant, 5@10c each; cauliflower, 15@20c head; lettuce, 5@12c head; celery, 5@10c bunch; squash, 4@5c each; lima beans, 10c pint; new beans, 20@25c ½-pk; corn, 10@18c dozen; peaches, 20c ½-pk; do., 60c@$1 basket; pears, 15c ½-pk; cantaloupes, 3@20c each; apples, 10@20c ½-pk.

Grain Market.—Wheat, $1.70@2.05 bu; ear corn, $1.67; corn, $1.77; rye, $1.55; timothy hay, $18@19 ton; mixed hay, $16@18; wheat straw, $11@12.

YORK PRODUCE MARKET

York, Pa., Sept. 3, 1917.

Eggs are advancing. Demand light. Corn scarce and higher. Potatoes firm and advancing. Butter scarce.

Eggs.—38@42c dozen.

Butter.—Country, 38@42c lb; separator, 40@45c. Milk, 8 cents per quart.

Poultry. — Hens, 20@21c; springers, 20@21c; dressed, 65c@$1.60 each.

Vegetables.—Potatoes, 12@18c ½ pk; $1 to $1.25 per bushel. Cabbage, 2@8c head. Lettuce, 4@6c. Beets, 3c bch. Radishes, 5c bch. Onions, 5c bch; 7c box; 24c ½-pk. Lima beans, 16@20c qt. Soup beans, 35c qt. Celery, 5@8c stalk. Tomatoes, 6@10c box; 15@30c ½-pk. Turnips, 10@15c ½-pk.. Corn, 15@25c doz. Eggplants, 3@8c each.

Fruit.—Apples, 8@20c ½-pk. Plums, 3@10c qt. Peaches, 5@10c box, 50@80c basket. Cantaloupes, 3@10c each. Watermelons, 20@40c each.

Retail Grain Market.—Wheat, $2.15; corn, $2; oats, 75c; rye, $1.65; bran, $2 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $1.95; corn, $1.60; oats, 60c; rye, $1.40; bran, $38 ton; middlings, $48 ton.

NEW YORK PRODCUE

New York City, Sept. 3, 1917.

Butter shows increasing strength. Cheese firmer on higher grades. Good eggs steady. Apples firm; peaches dull. Most vegetables plenty and low.

Butter.—Creamery, extras (92 score), per pound, 43c; higher score, 43½@44c; thirds to firsts, 38@42c; state dairy, 36½@43c; ladles, 34@38c.

Cheese. — Fresh colored specials, 24@24½c; white, 24@24¼c; undergrades, 11@17c.

Eggs. — Fresh gathered extras, 44@45c; extra firsts, 42@43c; nearby white, fine to fancy, 51@54c; ordinary to good, 42@50c; browns, 46@49c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 33@36c; old roosters, 19c; squabs, $1.00@4.50 per dozen. Spring ducks, per lb., 20@22c; turkeys, fresh killed, 22c.

Live Poultry.—Fowls, fancy, heavy, 26c@26½c lb; do., average run, 25@25½c; do., small or poor, 24c; chickens, fancy, heavy, 30c; do., average run, heavy, 28@29c; do., average run, Leghorn, 28c; do., small or poor, 26@27c; old roosters, 17@17½c.

Vegetables and Greens.—Beans, per bu. basket $1@$1.50. Beets, per bbl., $1.75@2.25. Onions, per 100-lb. bag, $1.75@2.50. Potatoes, Jersey, $2.25@3.50 per bbl. Carrots, $1.75@2.25 per bbl. Corn, per 100, 50c@$1.25; cucumbers, 50@75c basket; peppers, per bbl., $1@2.50; tomatoes, Jersey, 40c@$1 per box.

Apples.—Wealthy, $2.50@5.50 per bbl; Duchess, $2.50@5; Gravenstein, $2.50@4.50; Summer Pippin, $2@3; ordinary sorts, $2@2.75.

Peaches.—Delaware and Maryland, 75c@$1.50 per carrier; Maryland, 50@90c bu. basket; Delaware and Maryland, 25@55c per basket; Jersey, Elberta, $1@1.50 per carrier; do., Belle of Georgia, 75c@$1.75 per carrier; do., other kinds, 50@$1 per carrier; do., 50c@$1 bushel basket; do., 25@60c per basket; Pennsylvania, 60@$1.25 per barrier; do., 50c@$1.12 per bushel basket; State, 25@60c per basket.

LANCASTER LIVE STOCK

Lancaster, Pa., Sept. 3, 1917.
(Reported by McClain Commission Co.)

The receipts of cattle for today's market were 196 cars, as compared with 175 cars last Monday and 116 cars the corresponding Monday last year. They came from Virginia, 111 cars; Chicago, 49 cars; St. Paul, 5 cars; Indianapolis, 2 cars; New York, 8 cars; Pittsburgh, 7 cars; Buffalo, 7 cars; Pennsylvania, 4 cars; St. Louis, 1 car; Detroit, 1 car; Ohio, 1 car. It will be observed that the run from Virginia constituted more than one-half of the total receipts. Chicago contributed about one-quarter of the total receipts. Virginia and Chicago combined furnishing 75 percent of all the cattle on today's market.

This is "Labor Day". For some people "Labor Day" means a Holiday, but at the Union Stock Yards Labor Day meant a real work day, for cattle salesmen. The heavy run made them labor hard to move the goods, and when evening came, their task had not been completed, because fully 50 cars remained unsold, and these 50 cars consisted almost entirely of plain butcher steers, weighing 800 to 1,000 lbs. and butcher heifers ranging in weight from 600 to 900 lbs.

Where all the heifers came from today was the question on everybody's tongue. Seldom in the history of the local yards has such a generous array of "female" stuff presented itself for inspection and sale. There were at least 80 cars ranging from extra good to extra common, and weights from 550 to 1,100 lbs. The best of them were wanted and quickly taken up. The "top" load were choice spayed W. Virginia "sisters" that weighed 1,010 lbs., and sold at $11.50. They sure looked good enough to eat. Another load of the same kind but only weighing 900 lbs. sold at $10.50, and a great many sales of good heifers, weighing 800 to 850 lbs., were made at $9.50 to $10. When you got below this grade, there was more than the demand wanted, and they sold fully 25 cents lower; in fact, the common kind, 600 to 750 lbs., sold 50 cents lower. A fair grade of heifers, weighing 700 to 800 lbs., sold at $8 to $8.75. A common kind weighing 600 to 750 lbs. sold from $6.50 to $7.50.

There weren't very many really good butcher steers on sale. The best load was good. They weighed 1,200 lbs., came from Virginia, had flesh and plenty of fat. They sold at $12.75. Another car of very good quality Virginia steers that weighed 1,150, sold at $12.25. Still another car of the same kind weighed 1,120 and sold at $12. Several cars that were pretty good, weighing 1,050 to 1,150, sold at $11.25 to $11.65.

A car of pretty good killers, coming from Chicago and weighing 1,110 lbs. sold at $11.50. Another from the same place weighed 1,120 and sold at $11.25. There were quite a lot of butcher steers on sale that in the trade are called "green", weighing 900 to 1,100 lbs., that sold from $9.25 to $10.25. This class of goods was a strong 25 cents lower than last Monday.

Good fat cows were steady. One extra good bunch of West Virginia "White Faces" weighed 1,100 lbs. and sold at $9. Another bunch of the same kind weighed 1,050 and sold at $8.75. Several bunches of good cows but not what might be called "extra", sold at $7.75 to $8. The kind ordinarily called "good", sold at $7.25 to $7.50. Fleshy cows went at $6.25 to $7, and bologna cows at $4.50 to $5.50; the $4.50 grade was very plain stuff. Good fat oxen sold at $10 to $10.25, but they were very good, and weighed 1,400 lbs. The kind ordinarily called good, sold at $9 to $9.25; fair, $8.50 to $8.75; a plain kind, $7.25@7.75.

The market was not heavily loaded with stockers and feeders, and prices on this class were steady to a shade stronger. Some farmers are beginning to take on the heavier weight feeders of good quality. One car was sold today to a Schuylkill County farmer at 10 cents per pound. They weighed 1,025 pounds, and had pretty good quality and considerable flesh. This was about the highest price ever paid on this market within the recollection of anybody now doing business here, for a full carload of cattle that were strictly feeders. Another carload of pretty good Chicago feeders weighing 950 lbs. sold at $9.40, and one bunch of 12 head went to one of the best cattle feeders in Lancaster County, at $9.75. They averaged 899 pounds.

A number of sales of good 850-pound steers were made at 9 cents per lb., a good many of them going to Chester County. Some of these came from Chicago and some from Virginia. The best price for which any Virginia feeders were sold was $9.35, and they were a load that weighed 1,050 lbs., but were not strong on quality. The most demand in the stocker department seemed to be for a light-weight, plain kind, ranging from 600 to 700 lbs. with prices at $7 to $7.60. Several lots of little "nubbins" weighing 500 lbs., sold at $6.75 but they were very plain. A fair grade of 750-lb. steers sold at $7.75 to $8.10.

Stock bulls were in pretty generous supply, and sold 10 to 15 cents lower. A few fancy ones brought $9 to $9.50 but $8.25 to $8.50 took good ones and $7 to $7.75 took the common to fair grade.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Sept. 3, 1917.

Baled Hay and Straw.—Supplies of desirable grades were small and values were well maintained, but there was no activity to the demand.

Timothy hay, No. 1, large bales, $20@21; No. 1, small bales, $20@21; No. 2, $17.50@18.50; No. 3, $15.50@16.50; sample, $10@11. Clover-mixed hay—Light mixed, $17@18; No. 1 do., $16@17; No. 2 do., $14@15. Straw.—No. 1, straight rye, $13@13.50; No. 2 do., $12@12.50; No. 1 tangled rye, $12@12.50; No. 2 do., $11@11.50; No. 1 wheat straw, $11@11.50; No. 2 do., $10@10.50; No. 1 oat straw, $11@11.50; No. 2 do., $9.50@10.

Bran.—The market was dull and unchanged, with ample offerings.

Soft winter bran, in 100-lb. sacks, per ton, $35.50@36; spring bran, in 100-lb sacks, per ton, $33.50@34.

NEW YORK HAY AND GRAIN

New York City, Sept. 3, 1917.

Feed.—There were no new features in this market on Saturday. Trade was practically suspended, the Exchange being closed, and as a result prices were nominally unchanged. However, the general feeling was again weak and business was possible at good concessions from last quotations. Stocks are accumulating and the supply here now is above normal. The amount in transit is also large. There is no demand worth while, and consumers are buying only as requirements make it necessary, a natural tendency considering the weakness noted. The establishment of a wheat price should eventually result in a better trading basis, for now both the buyer and the seller are better posted as to the relative value of feed. Quotations: Western spring in 100-pound sacks, $32.50; standard middling, $36.50; flour in 100-pound sacks, $48 to arrive; red dog to arrive in 100-pound sacks, $58; city feed bulk bran, $33; 100-pound sacks, $34; heavy feed, 100-pound sacks, $40; red dog, $62; flour, $61. Linseed oil meal, $51.50 per ton.

Hay and Straw. — We see no further change in the local situation today. All harbor points continue very lightly supplied with hay, and while demand is also very light, it is rather beyond available offerings and the situation continues strong and in sellers' favor thruout, especially on medium and top qualities of timothy hay, which are exceedingly scarce, and occasional cars of these top qualities might exceed quotations if here. There are still relatively heavy supplies of poor hay here, some of which is so worthless as to sell down to $7. Sales of new hay have been reported at $18@$19 for No. 2 and $14@15 for shipping. Rye straw firm.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Sept. 3, 1917.

Butter.—The market ruled firm under light offerings, but wholesale trade, as usual on Saturday, was quiet. Fancy solid-packed creamery brought outside rates, while the undergrades sold fairly at inside figures. Fancy prints were scarce and firm, but there was some unattractive stock around, which was dull and weak.

Western, fresh, solid-packed creamery, fancy specials, 45½c; extra, 43½@44½c; extra firsts, 42@43c; firsts, 41c; seconds, 40c; nearby prints, fancy, 48c; average extras, 46@47c; firsts, 43@44c; seconds, 41@42c; special fancy brands of prints were jobbing at 51@54c.

Cheese.—Market was quiet but steady under light offerings.

New York full cream, fancy, June 25c; specials higher; do., current make, best, 24¼@24½c; do., choice, new, 23½@24c; do., fair to good, new, 22½@23c.

ELGIN BUTTER MARKET

Elgin, Ill., Sept. 1, 1917.

Butter.—Bids, 41½c; no sales.

NEW YORK MILK MARKET

New York City, Sept. 3, 1917.

The surplus is falling off, chiefly because of a reduction in supply. There are reports that the Dairymen's League proposes to ask as the basis of the winter contracts rates ranging from 7½ to 8 cents a quart between October 1 and April 1. Such rates, it is said here, would be likely to increase the retail rates from 2 to 3 cents a quart, and further cut down the demand. The League rates for September are the same as those for August, i.e., $2.55 a hundred for 3 percent milk; $2.76, or 5.86 cents a quart for 3.6 percent; and $2.90 for 4 percent milk.

The receipts of milk and cream in 40-quart cans for the week ending September 1 were as follows:

Railroad	Milk	Cream
Erie	41,162	2,315
Susquehanna	3,427	10
West Shore	12,039	1,199
Lackawanna	66,875	2,190
N. Y. Central (long haul) including Rutland	135,548	4,191
Ontario	37,980	3,190
Lehigh Valley	45,196	869
New Haven	3,490	35
Pennsylvania	12,750	550
Other sources	7,105	257
Totals	364,572	14,735
Same week last year	394,268	20,274

TOBACCO MARKET

Those who would control the price situation have apparently adopted a still hunt as compared with their recent attempt to buy open handed and in such a sweeping manner as to produce a landslide. With isolated crops purchased it is evidently thought a general price will be established and the way made clear for a sweeping sale. Sellers should be alert and in no haste to contract, as it is practically sure that prices later on will even exceed the greatest expectations. In accordance with the above, a large crop of thirty acres was bought at $20, $10 and $6 per cwt., and in other localities purchases were made at practically the same prices. That tobacco prices in general will be much lighter is further evidenced by sales at southern markets of certain low grades of the crop of the present year at about $20 per cwt. as compared with $11 at the corresponding time last year. These early sales were of the inferior grades and it said that offerings were "green", "sorry", etc., and of the market that it was "out of sight" and in every instance the highest ever known. Copious rains have fallen in most tobacco growing localities and the generally belated crop will now get down to business in the race with cold weather. Some areas have been cut, owing usually to premature ripening caused by the loss prevailing drouth but the big part is yet in the field and unless unduly blighted by frost may yet make a fair but not an average yield per acre. — H. E. Tweed. Sept. 3, 1917.

Live Stock

THE FALL LITTER OF PIGS

The wholesale slaughter of brood sows which took place in 1916 should not be repeated this year. Conditions which then made profits doubtful do not exist now. The whole world is bidding for pork products. Bacon, ham and fats are needed by our armies and those of our allies; fats by the munition makers for use in making explosives; pork for the feeding of civilians.

Without exception the European nations have slaughtered their swine until today their stock of reserves is exhausted and great inroads have been made even upon their necessary breeding stock, and, except for the fighting men in the field, all Europe today is on a very limited fat ration. Never before in our history has there been such an opportunity for the American farmer. There will be 500,000,000 extra bushels of corn waiting to be turned into meat and fat and we all know that corn is the fat-maker in the finishing process. There is no world shortage of pasture, none of corn nor even of protein feed, which compares in gravity with this world shortage of pork—and the world is willing to pay and waiting to buy.

A GOOD MARKET FOR THE FARM-GROWN FEEDS.

The President's embargo on food stuffs shuts off England from her chief sources of pork products. For years Denmark has been producing a special type of bacon for the English market and getting fancy prices for it. It is an extra lean bacon, the result of heavy feeding of protein. The hogs are of a uniform type and slaughtered at about 150 pounds. The pig is the greatest labor saving device ever brought to the farm. It will do much to solve the American farmer's labor anxieties while helping his bank account.

SELECTING NEXT YEAR'S BROOD SOWS

At this season of the year young sows which are to be used for the next spring's breeding stock may well be separated from the rest of the herd. It is advisable to allow a young fattening animal practically a full feed either thru the self-feeder system or thru a full feeding by hand twice a day. Young gilts intended for breeding stock will make practically the same growth and frame development when limited in their grain ration, and while they will not carry the condition of a market pig, they are likely to be more successful at farrowing time and at a lower cost for feed.

It is a good plan to select a few more gilts than will be needed as it sometimes happens that all the females are not good breeders. It is also usually found that surplus bred sows are in demand thru the winter months.

The following ration for brood sows is recommended by the New Jersey Experiment Station: Shelled corn, corn meal, ground rye or hominy feed, 100 pounds; white flour middlings or red dog flour, 50 pounds; digester tankage (60 percent protein), 10 pounds. When animals are on good, green forage the middlings and tankage may be decreased somewhat. Feed twice daily in such amounts as will keep the animals in medium condition.

Young sows may be bred at the age of eight or nine months if growthy and well developed. Usually it is advisable to have young sows farrow at about fourteen months, provided they have made normal growth.

BUYING EWES FOR NEW FARM FLOCKS

The demand for breeding ewes has exhausted the local supply in many sections. Western range ewes are being used to start farm flocks in the Corn Belt and in the East. In the Corn Belt these ewes have already proved their ability to produce market-topping lambs when mated to good rams of mutton breeds and when well cared for during the winter and after lambing. They may be expected to do well on the farms east of the Corn Belt, and on the hilly pastures of the Appalachian Mountain system.

These ewes are usually free from stomach worms, and thanks to the regulations governing the interstate shipment of sheep, are free from sheep scab or other communicable diseases. They can ordinarily be purchased thru commission men on the central stock markets or direct from the range breeders. Organizations interested in effecting an increase in farm flocks have arranged to sell western ewes to eastern farmers at cost. Regardless of how they are purchased, the buyer should insist that the stock be healthy, sound of teeth, and have good udders and teats.

Farmers' Bulletin No. 576, entitled "Breeds of Sheep for the Farm", will assist the owner of grade ewes in the selection of a purebred ram to head the flock. This bulletin discusses the different breeds, their characteristics and adaptabilities. Advice on the different kinds of equipment to be used on the sheep farm can be obtained from Farmers' Bulletin No. 810, dealing with "Equipment for Farm Sheep Raising." These bulletins can be procured free by writing to the U. S. Department of Agriculture, Washington, D. C.

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PENNSYLVANIA FARMER
261-63 S. Third Street, Philadelphia, Pa.

Mrs. Carter's Burglar

By Laura J. Rittenhouse

Mrs. Carter locked the door behind her son-in-law, Dr. McLean, and his bride, and went back to her snug seat in the comfortable mahogany rocking chair that was yet wearing its first high polish. She sat down and rocked quietly for awhile, carefully holding her book open at the place she had left off reading, not quite ready to yield again to the thrall of its fascination. Something almost like an ache was in her heart before the smile on her lips had faded, and the little wrinkle between her eyebrows became intensified.

In spite of her natural cheerfulness, Mrs. Carter was worried. She had been visiting her daughter for nearly a month, now, and during that time only two patients had called on Dr. McLean, and their cases had been simple ones that did not require a second visit. The doctor and his brave little wife had made a joke of it so far, but Mrs. Carter knew their gaiety was assumed, and that money was needed to meet the modest demands of the little household.

Her big heart was full of generous impulses, and she longed to help them out of financial straits, but their wedding had been a heavy expense to her, and Arthur's college bills were constantly pulling on her purse strings until she felt as if they must be worn to a frazzling. So she was cudgeling her brain, wondering in what way she could assist them until the doctor's skill became known and his pockets would be filled with shekels from wealthy and appreciative patients.

The little suburban house was beautifully furnished, and from where she sat she could see the glitter of an abundance of sterling silver, which was but one item of the many handsome wedding presents showered upon her fortunate daughter. It was gratifying, of course, but one could not pay "the butcher, the baker, the candle-stick maker" with furniture, bric-a-brac or silver.

The lines deepened on her forehead as she meditated, but at last with an effort to forget her useless worries, she turned once more to her book. She was a voracious reader, the story was absorbing, and Mrs. Carter read on with deep interest, mechanically stroking the back of the pretty Maltese cat that had climbed into her lap and was gently purring in sleepy content.

She did not see the sharp, wicked eyes peering at her thru the window that was always left unshaded at night, so that any one looking for the doctor might see the modest sign painted across it, nor did she hear the stealthy steps upon the porch as a man approached the door.

The sharp clang of the door bell startled her and she sprung up so suddenly that the cat fell upon the floor with a protesting meow. With her heart in a flutter of happy anticipation, she hastened to open the door and a man with a small black mask on his face stepped quickly into the hall and slammed the door behind him.

As Mrs. Carter saw the mask, she realized at once that a burglar confronted her, and she had hard work to control her tell-tale face, but she was a quick-witted, resourceful woman and with assumed cordiality she addressed her unwelcome visitor.

"Walk right in and sit down! The doctor isn't here just now. A friend gave him some tickets and he and his wife have gone to the opera. They wanted me to go, too, but I don't understand such high-faluted singing, and preferred to stay at home and read. I'm glad now that I did, for it would have been too bad if we had all been away from home when you came. Now you can wait until Dr. McLean comes back, if you're not in too big a hurry. Here, take this Morris chair; its comfortable and you'll get tired standing. Does the light hurt your eyes? How long have they been sore, or did you get them hurt some way? What do you wear that black stuff on them for? Green goggles would be ever so much better. I know, because I wore them myself when I had sore eyes," she chattered, not giving him a chance to reply.

"Shan't I bathe them or do something to help them until the doctor gets back? In my home out in the country the neighbors think I'm almost as good as a doctor, and I don't charge anything for my services, either," she said laughingly.

The man was puzzled at first, and looked at her sharply, but the child-like innocence of her kind old face disarmed suspicion, and with whimsical humor he decided to help carry out the mistake she had made.

"I can't wear goggles," he said, "they're too heavy, and I hate to have heavy things about my eyes. Are you sure the doctor won't be back until after the opera is over?"

"Oh! Yes, indeed. He and Emma both love music too well to leave until the last note is sung. I'm so glad they could go, tho I'm sorry the doctor isn't here to attend to you right away, you look so sort of tuckered out. Does your head ache, too?" she asked with friendly solicitude.

"No, but an old tooth does. I guess the nerve is exposed. I ought to have gone to a dentist long ago," he said truthfully.

"Now, that's too bad! Maybe I can do something to relieve it. If there's a decayed place in your tooth, some oil of cinnamon or cloves on a bit of cotton would be good for it, or even castile soap scraped very fine, made into a ball and put into it might stop the aching. I'll try to find something to help you," she said, bustling from the room.

But for the pain he was in, the man could have laughed at the old lady's credulity, for in his five years of crime he had never been entertained and mothered by an intended victim before, and the ludicrousness of it all greatly amused him. He began to wonder, too, just when and how he was to end this little comedy and begin bagging the silver, jewels and any money to be found, and he felt more than half remorseful and guilty. He imagined how terrified the poor old lady would be when he revealed his true character, and resolved that under no circumstance would he harm a hair of her head.

Meantime, Mrs. Carter was in the pantry looking for a toothache remedy, and wondering what in the world she was to do with the burglar, to keep him from carrying off her daughter's elegant wedding silver, which was doubly precious because it was given by her friends. The house was in a new suburb, and too isolated to hope for help if she screamed, and she could not lure him into a strong closet and make him a prisoner by slamming a spring latch door shut as she had read of other women doing, because there was no such closet there.

Quick-witted tho she was, there seemed to be no solution this singular problem, until she happened to see a bottle of laudanum left when the laundress had used it for a sprained wrist the day before. She took it down and moistened a tiny piece of absorbent cotton with it, then returned to the living room.

"I couldn't find any cinnamon or cloves, but here's some laudanum, which I guess is better, anyhow. Now take this toothpick and push the cotton into your tooth as tight as you can, and let's see if it doesn't relieve you," she said cheerfully.

The man willingly obeyed, and Mrs. Carter sat down and chatted of her home in the country, of the chickens and turkeys and eggs she had sold before Christmas, of the fruit and vegetables she had raised; of the rich milk her cows gave and the delicious butter she made; of her daughter's wedding and of the son away at college, until it seemed the burglar must know every detail of her life. Her voice was soft and soothing, and he listened with amused interest, feeling more and more guilty all the time for deceiving such a sweet and guileless old soul, yet not willing to give up the rich haul almost within his fingers.

"Is your tooth easier?" she asked at last, with motherly solicitude.

"Yes, ever so much, but my head aches and I wish you could hoodoo it away, too, as you have the toothache."

"Of course I can. I ought to have made a cup of good strong coffee for you long ago, instead of gabbling my head off. I'll go and do it this minute. It will be sure to help you."

"Thank you; you are very kind!" he muttered, as she hurried to the kitchen, where she lighted a burner on the gas stove and put on the tea-kettle. Then she spread a dainty doily on a silver tray, got one of her daughter's prettiest china cups, a heavy sterling spoon and some cut sugar.

The burglar caught glimpses of her as she went back and forth to the sideboard, and thought that as soon as he had finished drinking the coffee he would have to go to work quickly, because it was getting late and Dr. McLean might soon return.

Meantime, Mrs. Carter felt that her opportunity had come, and with unsteady fingers she measured the coffee and as soon as it had boiled poured out a cupful and put into the steaming beverage more than the amount of laudanum usually required to put a man to sleep.

She knew that coffee was one of the antidotes used for laudanum poisoning, but she thought also that a single cup would not counteract its effects, so with outward ease of manner, and much inward quaking, she carried the tray and put it on a small table by the chair in which the burglar was half reclining.

He took the cup and drank eagerly, for he was feverish and thirsty.

"It tastes like laudanum," he said.

"Its the laudanum in your tooth," she said readily, and if he had any suspicions they disappeared, the explanation was so reasonable.

"Will you have some more?"

He shook his head, a queer, heavy feeling beginning to creep over him. It was so comforting not to have his head pounding and thumping, nor his tooth aching as if it would split, that he had no desire to shake off the stupid sleepiness that was overcoming him, so he sank back still more luxuriously in the soft-yielding chair.

Mrs. Carter watched him with the alertness of a cat, and when his regular breathing assured her that he was really asleep, she ran to the telephone in the hall and took down the receiver.

"Central!—Central—give me police headquarters quickly!"

In a moment her call was answered.

"Send some policemen to Dr. McLean's, 5974 Walnut street, as quickly as you can! I've captured a burglar, and I want to get rid of him."

In ten minutes she heard the patrol wagon dash up to the gate, and as she quickly opened the door, four policemen stepped upon the porch.

"Walk right in, please! You will find him asleep in the Morris chair by the fire," she said as composedly as if that were the ordinary way of capturing burglars.

The men stared at her, half believing they were the victims of a practical joke, but she led the way and there they found the burglar snoring ingloriously, unconscious of the approach of his enemies.

As the police sergeant removed the black mask from the handsome, dissipated face, he gave an exclamation of surprise and delight.

"Holy Moses! Its Billy Biggerstaff—bad 'cess to him—the man that robbed a bank in Denver, and killed the cashier. He's a dangerous cuss, and easier to handle drunk than sober."

"He isn't drunk. He is only sleeping from the effects of laudanum I gave him in some coffee," explained Mrs. Carter, and then she briefly told them what she had done.

The policemen looked at the plucky little woman admiringly.

"And its glad I am that such a brave woman will get the thousand dollars reward offered for the bloody rascal," said the big sergeant approvingly, whereupon Mrs. Carter's coolness deserted her, and she sat down and began to cry.

"Hurry and take him away! I can't bear to look at him. I feel like a Judas for betraying him—poor fellow."

The men laughed unsympathetically, and just then Dr. McLean and his wife came hurriedly into the room, much alarmed at seeing the policemen.

"What does this mean?" the doctor demanded peremptorily.

Mrs. Carter stopped crying and looked up at her broad-shouldered son-in-law with a quizzical smile.

"It means that a new patient came and I prescribed for him, and the fee is one thousand dollars. Just think of it, Emma!"

And as the policemen hustled the burglar out of the house, she told the whole story, half laughing and half crying.

"I never felt so low down mean and deceitful in all my life before, but I guess its a good thing after all to shut that poor fellow up where he can't get into any more mischief. Maybe if they don't hang him they'll give him a chance to reform, and oh, Donald, that thousand dollars will help you over the hard times until plenty of sure-enough patients come."

JERSEY CATTLE CLUB PROCLAMATION

The American Jersey Cattle Club has issued an important proclamation to all breeders and owners of Jersey cattle. In summary the proclamation states that in view of the urgent demands for all food products and the abnormal conditions due to the war, Jersey breeders pledge themselves to save all Jersey cows and their female offspring, that they will not keep or use a poor bull in their herds, that they will study feeding and attempt to feed most intelligently, that they will prevent the waste of milk and skim milk, that they will plan to grow cattle feeds on their farms and that they will do all in their power to maintain the fertility of the soil of their farms. For full details of the proclamation, address American Jersey Cattle Club, 324 West 23d St., New York City.

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The Voice of the People

This department is reserved for use of our readers to discuss problems and matters of general farm interest. Write your views and comments briefly on any question of social, economic or educational importance and thus share them with others. Such articles should not exceed 200 or 300 words. Publication of such articles does not signify editorial endorsement or agreement.

FARMER PATRIOTISM

The following quotation was clipped from a leading Philadelphia paper, under the caption "A Conscript's Complaint":

"So much odium has been heaped on the city man, due to the large number of exemptions asked, that I desire to explain conditions causing the above.

"'The city men are as patriotic as any other class of men, but don't feel like rushing off to war, leaving their families dependent on charity, leaving good paying positions, losing their home on account of unpaid mortgages, in fact, beggaring themselves and families, while foreign-born residents, who pay no taxes and who enjoy every privilege we do are allowed to stay here in peace, take our positions at raised rates of wages and profit by the sufferings of ourselves and families.

"Another reason why the city men feel they are being discriminated against is this: The farmers are to be exempted. These same farmers are allowed to form combinations to hold food off the market until our families are compelled to pay starvation prices. They are receiving all kinds of Government aid, also. Why cannot able-bodied farmers of draft age be taken for the army, and city men of draft age physically unfit for the army sent to the farm (to work for decent wages) to take their place?"

I am the mother of five children. My husband is a conscript. We are working our farm without help. If my husband is taken (and farmers are not exempted) it will be left for me to run the farm alone. I will do this if necessary as best I can, but I can scarcely hope to do more than support the family. I will not be able to make the farm contribute to the demands being made for food products.

I shall not attempt to farm with the aid of city help "physically unfit for the army" or otherwise. Such help without farm experience is valueless to us. It insists on working only eight hours per day. We work twelve and fourteen hours at certain seasons of the year, not because we want to, but because the nature of the work demands it. Again, the inexperienced city helper will do more damage in the handling of animals, farm equipment and the handling of crops than his wages amount to. It requires careful and skillful work to keep cost of production down to where we can realize a living profit. A few mistakes and a little bungling wipes out all profit and brings a loss.

The assertion that farmers are allowed to form combinations and force starvation prices reflects simple ignorance. Responding to the demand for increased potato acreage, we planted early potatoes this spring, paying the prevailing high prices for seed. The crop is a very poor one and brings us $1.50 per bushel. The returns will pay for the seed only. They do not cover cost of preparing seed bed, cultivation, fertilizer at $35 per ton, harvesting and marketing. I started to peddle our early potatoes in our nearest town at 65 cents per basket. The people objected to the price, saying that it did not cost me anything to market the potatoes and I should sell at 50 cents. They went to their stores and paid 90 cents per basket. The present high city prices could be cut to a half if the town people would deal direct with the farmers, but deal fairly and pay what we can get from the dealers. The trouble is that they expect to buy for less.

Country people have much to learn, we admit. But when city people attempt to discuss conditions of the farmer, they should at least have a few facts. When "Conscript" pleads for exemption that he may continue in a "good paying position", let him not attempt to pass his neglected duty on to the farmer who lives by long hours and the combined labors of all of his family. And let "Conscript" remember that just in the proportion that productive farmers are drawn for war duty, so will the supply of food products decrease and the cost of living increase.—Mrs. James Southard, Burlington Co., N. J.

COMPULSORY EXCURSIONS

By what law of right and justice should the entire burden of conscription be placed upon the boys between the ages of 21 and 31 years, to the complete exclusion of all older men? If the full burden of the actual fighting be borne by the boys, should not the men at least carry some part of the financial responsibility? It extorts a heavy toll from many of these boys in the rural sections to appear at the various times and places of examination and, in case they happen to be established farmers and running independent homes of their own, the burden is very materially increased. Suppose a young farmer 75 miles from Buffalo be ordered to appear in that city on a day designated by law, and that day fall in a particularly busy harvest period. A satisfactory substitute in the field would be as unattainable as a trip to Mars. The young man might lose his crop thereby, and the lost day would mean easily $100 or more. And yet we are exhorted to save every berry, every potato, and every scrap of bread!

Any day may not mean $100 to a farmer. On the contrary, most of his days bring such a meagre wage that the one that might be highly remunerative, if lost, is a far greater disaster to him than to most men. It is precisely as if pay day came to the factory workman about once in six months and he must appear in person on that day to claim his pay envelope, his failure to do so forfeiting his wages for that length of time.

These trips, too, are in themselves luxuries that we would know we could not possibly afford to take for our own pleasure. The first and shortest one is twenty miles and to a place we have wanted to visit for some years, but could afford neither the time nor money. Some one will probably suggest that, now that is has become compulsory, we take that pleasure trip at the same time the physical examination be given. The wives, mothers, sisters and sweethearts who accompany the boys on these examination trips will find little pleasure in such a trip. But would not the burden be much more fairly adjusted if the boys who are forced to make these journeys, received at least their expenses and reasonable pay for their time, and the bill therefor be a tax upon the men over 31 years of age?—E. M. A.

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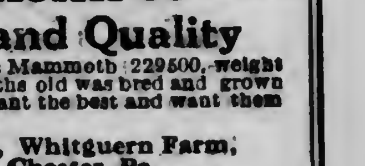

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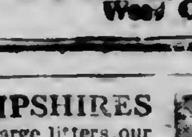

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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Partial Loss of Power.—I have a colt, about four months old, which appears to be healthy, but for the past four weeks when walking or turning suddenly he is inclined to stagger. When walking he fails to go straight. What can be done for an animal in this condition? G. E. H., Williamson, Pa.—Your colt may have met with an injury to spinal column. If so, giving him drugs will do him but little good. Give ten drops fluid extract nux vomica and ten grains potassium iodide at a dose, three times a day. If by close examination you find an injury to back, apply three parts tincture iodine and camphorated oil, three times a week. This colt being young, he will perhaps gradually but slowly recover.

Ringbone.—We have a two-year-old Percheron colt that is lame in left fore leg. This lameness has been gradually developing for the past 2½ months, but at first it was only noticeable when he first got up, or after standing still for a while. Now he is perceptibly lame and the only bunch I can find is down near hoof, on inside of pastern. When this bunch is pressed with the end of finger, he does not flinch and when the colt stands quiet, he stands with his weight on all four legs. A neighbor of mine who is considered a fairly good horseman thought he had ringbone. J. W. T., Parkersville, Pa.—Doubtless your neighbor diagnosed the case correctly. In order to treat low down ringbone successfully, the animal should be given absolute rest. By this I mean tie colt in a single stall, free from flies in order that he will not be stamping and jarring the bones of limb. Clip off hair and apply one part red iodide mercury and four parts lard every two weeks until he travels sound. The commercial ringbone and spavin remedies regularly advertised in this paper can be safely used in the treatment of this kind of a case.

Mange—Summer Itch.—Two of our horses are troubled with an itchy condition of the skin. The home remedies that I have applied failed to help them. I have been told that their blood is not in good condition. M. S. R., Oakmont, Pa.—Your horses should be washed with soap and water, two or three times a week. Their skin may need cleaning and when once cleaned doubtless a portion of the itchiness will leave them. After each washing apply one part coal-tar disinfectant and forty-nine parts water; besides, this solution should be applied to their skin twice a day. Washing off the perspiration with warm water is something that should be done to every work horse every evening during the extremely hot weather. It refreshes the animal and benefits the glands of skin.

Hoven.—Some of our cattle are inclined to bloat too much after eating damp alfalfa or clover. I would like to know if I can give them anything that will prevent them bloating. K. S. C., Kingsville, Pa.—You had better confine your cattle while this feed is covered with dew or rain; furthermore, if they are inclined to eat too much of this feed, they should only be allowed to graze a certain length of time twice or three times a day. The writer is opposed to giving well animals drugs when the ailment can be prevented by limiting or changing the food supply.

Eczema.—We have a bunch of white pigs, three months old, that are troubled with an itchy or inflamed condition of the skin. I would like to know what we had better do for them. They were all right when I weaned them a month ago and I had thought that their running in wet grass had perhaps caused this soreness of the skin. M. S. T., Foxburg, Pa.—You perhaps know that an animal with a white skin is more likely to have skin trouble than an animal with a dark hide. It is very often a mistake to allow white pigs to run in tall grass when it is wet; especially during very hot, sunshiny weather. Apply one part coal-tar disinfectant and nine parts vaseline to sore parts of skin, three times a week. The best time to apply this remedy is at night when the pigs are sleeping. Give them some cooking soda in their feed, once or twice a day.

LATE BULLETINS

Potato Storage.—Farmers' Bulletin 847, of the U. S. Department of Agriculture, is an illustrated discussion of Potato Storage and Storage Houses. The discussion covers the object of storage, storage temperatures, effect of storage factors, types of storage, potato storage-house construction, cost of construction, etc. In summary the bulletin concludes: The simplest form of potato storage is the ground pit. The next simplest form is the dugout pit or storage cellar. The third type is the insulated wooden storage house. The Maine type, aside from the artificially refrigerated house, is probably the most expensive type considered. The bulletin is free upon request from the above Department.

Domestic Flies of New Jersey. — Bulletin 307 of the New Jersey Experiment Station gives a detailed discussion of the Domestic Flies of New Jersey, their life cycle and means of control. Under control methods are discussed cleaning up breeding places, larvicides, traps, poisoned baits, fumigants, etc. The bulletin is mailed from the above station at New Brunswick, N. J.

Dairy Feeding.—Circular 73 of the New Jersey Experiment Station discusses dairy feeding and gives full directions on the calculation of dairy rations. Valuable tables and computations are given. The Bulletin should be of value to every dairy feeder. It is mailed from the above station at New Brunswick, N. J.

Vegetable Variety Tests. — Bulletin No. 204 of the Maryland Experiment Station reports on variety tests with potatoes, tomatoes, cabbage, beans, cauliflower, celery, lettuce, etc. Its recommendations are of value to all Maryland farmers and others of similar soil and climatic conditions. The Bulletin is mailed from the Maryland Station, College Park, Md.

Animal Parasites.—Circular 13 of the Missouri College of Agriculture discusses Treatment of Common Parasites Affecting Farm Animals. The discussion covers worms in horses, lice on horses and cattle, warbles in cattle, worms in hogs, lice on hogs, worms in sheep, grubs in sheep's head, worms in chickens, gapes in chickens. The circular is mailed from the above institution at Columbia, Mo.

The following instructive bulletins have been issued by the New Jersey Experiment Station, New Brunswick, N. J. They may be had free upon request:

Circular No. 67, Potash and General Farm Crops; Circular No. 68, Common Diseases of Cucumbers and Melons; Circular No. 71, Diseases of Tomatoes; Circular No. 75, Spray Calendar for Apples and Quinces; Circular No. 76, Spray Calendar for Pears; Circular No. 77, Spray Calendar for Sweet Cherry; Circular No. 78, Spray for Plum; Circular No. 79, Spray Calendar for Peach.

DAIRY CATTLE CONGRESS

The Dairy Cattle Congress which will be held at Waterloo, Ia., October 1 to 7 inclusive, promises to surpass all previous shows because its purpose is in direct line with the extensive food conservation campaign now being conducted by the government. Arrangements are under way to give a practical demonstration of every important phase of dairying and emphasize the magnitude of the industry. The premiums offered to the five herds, namely: Guernseys, Holsteins, Ayrshires, Jerseys and Brown Swiss total more than eight thousand dollars. The national breed association and clubs will offer substantial premiums in addition to those given by the show proper.

NEW BOOK

The War and Humanity.—By James M. Beck, L.L.D., late Assistant Attorney General of the U. S. 379 pages, 5x7½ inches. Bound in cloth. Published by G. P. Putnam's Sons, New York. Price, $1.50.

This book is primarily a discussion of the ethics of the world war and the attitude and duty of the United States. It goes a long way in pointing out why we are at war. Specific chapters cover The Distress of Nations, The Foreign Policy of President Washington, The Submarine Controversy, Belgium and the Cavell Tragedy, America and the Allies, The Vision of France.

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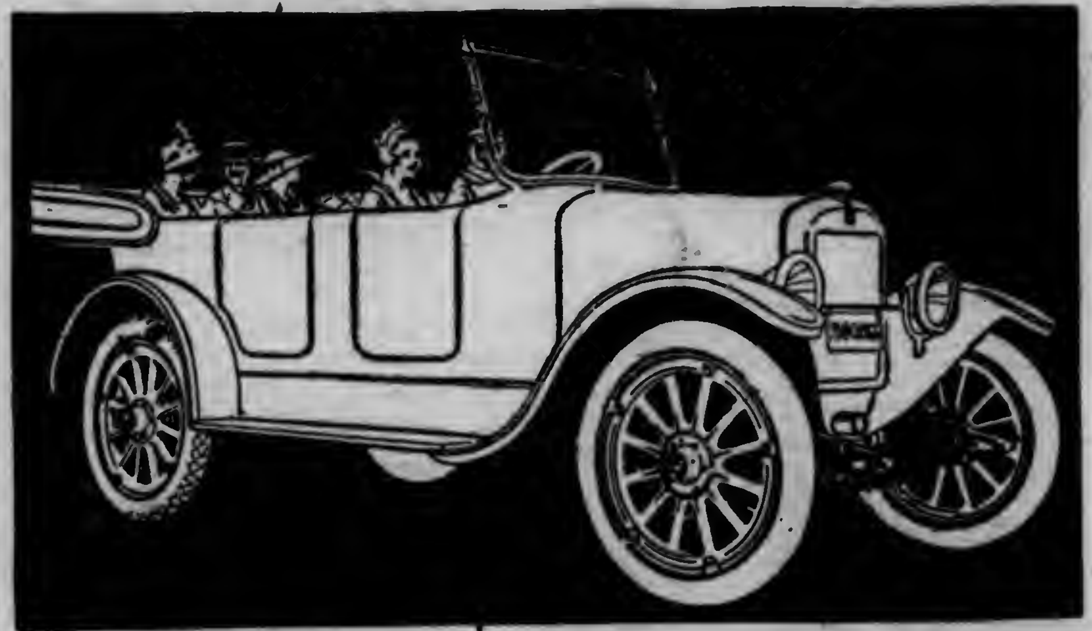

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Wheat Varieties For Eastern States

Experiment Station Tests Point Variety Characteristics as Guide to Selection

By C. F. NOLL and E. L. WORTHEN

PENNSYLVANIA STATE COLLEGE.

The need for the production of a maximum wheat crop has never in the world's history been more urgent. Exceptional inducements have been given the farmer to increase the production of wheat next year. Nothing should be overlooked that might retard the normal growth, and so far as possible, the essentials for the maximum yields should be supplied. Along with the thoro preparation of the seed bed and the adequate fertilization, comes the selection of good quality seed of a high-yielding variety as an essential for a maximum yield.

There are a great many varieties of wheat grown in the eastern states. They present remarkable variations in many particulars. The more noticeable of these variations are: Bearded or smooth head, color of grain, color of upper part of straw and stiffness of straw. Table I on the next page summarizes in a condensed form the characteristics of the more important varieties.

WHEAT VARIETY TEST PLOTS AT PENNSYLVANIA STATE COLLEGE.

Soft Winter Wheat

The wheat grown in the eastern states is classed in the wheat trade as "soft winter". Flour produced from such wheat is lower in protein than that from the hard spring wheats of the northwest, has less absorptive power and makes smaller loaves with darker colored crumb. Milling and baking tests, however, show that in yield of flour as well as in baking qualities, it compares favorably with northern spring wheat.

The relative yielding ability of varieties varies somewhat with local and seasonal conditions. Still, when the results of carefully conducted variety tests are compared, it is found that a few standard varieties are universally high yielders, altho an individual one is not always the highest yielder on all soils or on the same soil every year.

Experiment Station Tests

Variety tests have been conducted by the Pennsylvania Experiment Station on limestone valley soils (Hagerstown silt loam) since 1890. Five varieties have been grown continuously thruout this twenty-seven year period. The wheat has been grown in rotation with the other common field crops. The fertilization of the rotation has consisted largely of manure and acid phosphate. Table No. II gives the average yield of the more promising varieties for the last ten-year period. The yield of grain is given on the basis of 60 pounds to the bushel, and the weight per bushel refers to a measured bushel of grain. The pounds of straw per acre are given since there is often considerable difference between the relative yield of grain and that of straw.

While the yielding ability of an individual variety of wheat varies with conditions, it is interesting to note that certain standard varieties are universally high yielders. At the Ohio Experiment Station, Dawson's Golden Chaff, Gold Coin, Harvest King and Poole are found in the list of the ten highest yielding varieties for the eight-year period 1908-1915. At the Maryland Station, Fulcaster, Dawson's Golden Chaff, China and Dietz Longberry Red have all been high yielders; while in southern Illinois, Fulcaster and Harvest King have led all other varieties.

Considerable progress has been made in the improvement of standard varieties by several of the experiment stations. The yields of improved strains selected at the Pennsylvania Station are given in one of the accompanying tables. They are the most promising of a great many selections grown. If they continue to outyield the parent varieties, seed will be distributed in small amounts to farmers in different sections of the state for future sowing.

WHEAT SELECTION PLOTS AT PENNSYLVANIA STATE COLLEGE.

New Varieties

Many new varieties of wheat have been placed on the market within recent years. Seed firms generally advertise these as having unusual merit. Some of them prove to be valuable but a farmer should be cautious about paying an excessively high price for seed of new varieties on the strength of the advertiser's claim for it. The average yields per acre of a few standard varieties of selected strains of the same varieties and of several highly advertised new varieties are shown in Table III.

As an example of such unwarranted claims for a variety, Miracle, also known as Marvelous, was advertised to have unusual tillering qualities, so that one peck per acre was sufficient seed. Seed of this variety under the name of Miracle was bought by the Pennsylvania Experiment Station in 1912. Sown at the rate of one bushel per acre the yield was 25.5 bushels per acre, and at two bushels per acre the yield was 30.8 bushels. In 1914 another lot of the same variety was bought under the name of Marvelous and sown at the rate of one peck, three pecks, six pecks and eight pecks per acre. The yields secured from these rates of seeding were 23.8, 33.1, 36.5, and 34.8 bushels respectively. This variety did not tiller more than most other varieties and did not give the maximum net yield when sown at a low rate per acre. These varieties have not shown qualities of value under careful test.

Spring Wheat

Spring wheat has been thoroly tried out in the central-eastern states with discouraging results. Yields are invariably low and the quality poor. Past results indicate that the yield of spring wheat in this section will be less than half that of winter wheat. Oats furnish a far better crop for spring seeding than wheat in Pennsylvania and the adjoining states.

Emmer, sometimes confused with Spelt, is being extensively advertised in the eastern states this year. It is a tall growing type of wheat, with flattened heads, two-rowed and bearded. It has been grown for a number of years in the semi-arid west, being used largely as a grain feed for livestock. It is capable of withstanding drier conditions than the common small grains and can reasonably be expected to produce somewhat higher yields than common wheat. Exorbitant claims are being made for Emmer as an eastern grain crop. If seeded at all, the acreage should be small until thoroly tested out.

In general, the eastern farmer cannot go wrong in choosing one of the standard, high-yielding varieties of wheat. Take into consideration, if you wish, personal preferences as to such qualities as color of grain, and bearded or beardless heads. There is sufficient choice among those varieties which have demonstrated their high yielding ability. When possible, secure seed that has come from a good yield, since it is then more certain not to be a low-yielding strain of the variety. Remember that new varieties are carefully tested by your experiment station and if any appear of sufficient merit to justify the replacement of standard varieties, their value will be emphasized in experiment station publications, by extension representatives, as well as the agricultural press. We believe that it will be of advantage to farmers to make special effort to observe the behavior of different varieties of wheat in their own neighborhoods, and perhaps try out different kinds in test plots in order to discover the one best adapted to their particular soil and climate. The adaptation of varieties to localities should receive more attention than it has in the past.

TABLE I—Tabular Description of Varieties

Varieties	Character of head	Color of grain	Color upper part straw	Average height in feet	Mean date of ripening	Stiffness of straw
Dawson's Golden Chaff	smooth	white	yellow	3.5	July 10	very stiff
Harvest King	smooth	red	purple	3.6	July 10	stiff
Turkish Amber	bearded	red	purple	3.8	July 11	weak
Fulcaster	bearded	red	purple	3.9	July 10	weak
China	smooth	red	purple	3.9	July 11	stiff
Reliable	bearded	red	yellow	3.8	July 11	medium
Ontario Wonder	smooth	red	yellow	3.8	July 12	stiff
Beechwood Hybrid	smooth	red	purple	3.7	July 11	stiff
Rochester Red	smooth	red	purple	3.8	July 12	stiff
Dietz Longberry Red	bearded	red	purple	4.0	July 11	weak
Forty-Fold or Gold Coin	smooth	white	purple	3.6	July 11	stiff
Jones' Longberry No. 1	bearded	white	yellow	4.0	July 13	stiff
Fultz	smooth	red	purple	3.8	July 10.	stiff

Soil Bacteria and Soil Fertility

Their Activities Have Important Influence on Soil Fertility

There are two important crops, a visible and an invisible one, growing in the soil at the same time. The visible crop, such as grain, potatoes or hay, is considered to be the most important, yet it is dependent upon the invisible one, viz., soil bacteria, for its very existence. Soil fertility teachings and facts are largely built around the subject of soil bacteria. While at the present time little is really known about this minute form of life, all farmers (and fertilizer salesmen, too) who really study their problems as they must, will know more about them within ten years than they do now about manure—the reason being that soils are most productive only when conditions are best for proper bacterial development.

The size and numbers of these minute organisms may be appreciated when it is known that a single gram of soil may contain from one to fifty million bacteria. The fertility of any soil depends on the amount and kind of raw food and the number and efficiency of the bacteria that are rendering the raw plantfood available. The visible crop can never flourish until the invisible crop has had a chance to mature its crop of available plantfood.

Crop and Bacteria Needs are Identical

The general farm crops require a certain amount of moisture, food, air, organic matter and proper sanitation for their best development—and so do the soil bacteria. When these conditions are right, crops do best because the bacteria are able to grow, manufacture and liberate plantfood for the plant roots to absorb. While it is next to impossible to convince many people of the importance of soil bacteria it is possible to show them the necessity for proper drainage, liming, proper cultivation and maintaining the humus supply—all of which hasten the development of soil bacteria.

Soil bacteria require a certain amount of air or oxygen. This is only secured when the soil is properly drained to admit of free air circulation in the soil. When the soil is filled with water, only the anaerobic, sometimes called the ''bad'' soil bacteria, grow and the aerobic, often called the ''good'' soil bacteria, can not grow. As the latter are the ones particularly desired, the land must not be too wet. Since bacteria will not grow if the soil is too dry, the seed bed must be well prepared and cultivated to preserve the necessary moisture for best bacterial growth.

Use Manure Lightly with Fertilizers

When wet land, especially muck or peat swamps, are first drained they frequently do not grow crops worth harvesting; the reason being that no bacteria are present to liberate plantfood. Even when fertilizers are used such land should be inoculated thru a light application of manure, if best results are to be secured from the fertilizer. A number of experiment stations have demonstrated that five loads of manure to the acre are more profitable per load than ten. When manure is scarce it should be applied lightly over more land and supplemented with fertilizers. Best results are secured in this way from both manure and fertilizers. The manure furnishes the humus or organic matter on which the bacteria live.

''Dead'' soils, or those from which the humus is largely depleted, do not respond properly to fertilizers. Fertilizer men could do nothing better for their own business than to encourage the addition of humus to the land, thru light applications of manure and use of cover crops. This keeps the soil properly inoculated, furnishes a home for the bacteria, and keeps the soil in a physical condition suitable for best results from fertilizers. Light, frequent applications of manure are far better than infrequent heavy ones, on any soil, but especially on light and open soils. Apply lightly and more often.

TABLE II—Average Yields of Wheat per Acre, and Average Weights per Measured Bushel

(Ten-year Period, 1906-1916)

Varieties	Bushels of grain	Weight per measured bushel	Pounds of straw
Dawson's Golden Chaff	34.5	58.7	2,837
Harvest King	31.9	61.0	8,057
Turkish Amber	31.8	60.9	3,800
Fulcaster	31.7	60.6	3,419
China	31.4	60.3	3,603
Reliable	31.3	60.3	2,232
Ontario Wonder	30.8	60.5	3,234
Beechwood Hybrid	30.8	60.0	3,603
Rochester Red	30.6	59.5	4,063
Dietz Longberry Red	30.5	60.8	3,428
Forty-Fold or Gold Coin	30.3	57.7	3,383
Jones' Longberry No. 1	30.0	60.3	3,445
Fultz	29.7	60.2	3,282

TABLE III—(Three-year Period, 1913-1916)

Varieties	Bushels of grain	Weight per bushel	Pounds of straw
Fulcaster	30.4	59.1	2,952
Fulcaster Selection 44-09	40.4	58.6	3,396
Dawson's Golden Chaff	36.6	58.2	2,959
Dawson's Golden Chaff, Selection 25-08	37.9	59.1	2,810
Reliable	33.5	59.5	3,285
Reliable Selection 38-09	36.6	61.0	3,227
Miracle	31.7	60.1	3,343
Klondyke	30.1	58.2	3,141
Fultzo-Mediterranean	29.8	57.8	2,819

EFFECT OF FERTILIZERS ON CORN ON J. F. KNAUFF FARM, MERCER CO., PA. ON LEFT, NOT FERTILIZED; ON RIGHT, 250 POUNDS PER ACRE.

Bacteria prefer a sweet soil. An acid reaction is more favorable to molds and yeasts. As the bacteria are necessary to profitable crops it is essential that the soil be sweet or at least neutral. Largest crops of best quality are grown only when the home and food of the soil bacteria are right. A big crop of bacteria means best use of fertilizer. Most farmers are convinced that the proper kind of bacteria must be supplied for best growth of legumes, and for their greatest usefulness to the soil, but all do not realize the necessity of bacteria of other kinds for all plant growth. Wet, acid soil and soil deficient in humus will not grow good crops of non-legumes, such as timothy, corn, oats, wheat, etc., not alone because the environment is unfavorable to them particularly, but also because such soils are not well populated with food preparers in the shape of bacteria. For this reason wet soil must be drained, sour soil must be limed, and bacteria must be furnished. While barnyard manure does not often contain the bacteria for all legumes, except where the particular legume is fed, it does always contain the kinds which are needed in soil for growing non-legume crops. Not only are labor and seed wasted on soil in which they are deficient, but costly fertilizer as well cannot do its work in their absence. When they are present in sufficient numbers, other things being equal, there is scarcely a limit to production.—J. W. Henceroth.

Replacing Rotted Wood Foundation with Concrete

Often wood sills and posts of barns and other farm buildings become rotten and the stone or brick foundations crumble. This frequently happens in buildings which otherwise are in a fair state of preservation and well worth repair. Concrete is the best material to use in replacing the decayed sills and crumbling masonry.

If the foundation is in bad shape, it may be necessary to remove it entirely and build a new one of concrete thruout; or possibly it can be left in position and boxed in with concrete. Again, if that part of the foundation which is below ground is still serviceable it can be capped with concrete by first leveling off the foundation to the ground line, building a form of the required hight and width, and from that point up filling it with concrete. In such a case concrete is placed directly on top of the old foundation without any further preparation except that the old foundation should be cleaned and well soaked with water to prevent excessive absorption of water from the concrete.

The sills and the decayed portion of the posts and siding will have to be replaced. In order to do this, it will be necessary to take the load off the posts and support the building by means of props and braces. In a light building a single row of props either on the inside or outside will be sufficient to carry the load temporarily, but in large buildings bracing may be required on both sides. The props on the inside should be then placed under the stringers running out from the post and on the outside it will be necessary to nail a block or board at least 2 inches thick to the wall of the building directly opposite the post to be raised. By the use of wedges the load can readily be taken from the post and carried by the props.

The old sill should be removed and the posts cut off above the decayed portion. If the posts are all decayed to a comparatively uniform hight, they can be cut to a uniform length, and the concrete built up accordingly. If an occasional post is in a worse condition than the others, it can be cut and spliced so that it will be the same length as those next to it.

The mixture for the foundation should be in the proportion of 1 sack portland cement to 2½ cubic feet of well-coarse clean sand and 5 parts of well-graded pebbles or broken stone, the largest dimension of which is not more than 1 inch—all well mixed, using enough water to form a quaky or jelly-like mixture that will require little tamping.

Concrete should be placed in layers about 6 inches thick. As soon as each layer is placed in the form, a spade should be inserted between the concrete and the form, and worked up and down so as to force the pebbles away from the surface, thus allowing the cement mortar to come to the face. Foundations made in this way not only cost less than mason work or wood, but are also cheaper to put up.

By the Way

By Father Penn

''Democracy.—A form of government in which the people choose their own officers and make their own laws; a country in which the supreme power is retained by the people and exercised either directly or indirectly thru representatives.''—Dictionary.

''We must make the world safe for democracy.'' —President Wilson.

''The leaders of the different party factions held a conference at . . . . this week and agreed upon candidates for the ticket this fall. It is said that perfect harmony prevailed among the bosses and the men named will, therefore, be the candidates of the . . . . party at the coming election.''—News Item.

The above three quotations are presented as a sort of Chinese puzzle, the point being to put the three together and form a satisfactory and consistent whole. Of course the thing is impossible and a joke, and the first thing to do after realizing it is to take a good laugh, then go out behind the barn and kick yourself.

Of course, we have a democratic form of government—the best in the world—and we are genuinely interested in helping to bring about the establishment of its principles in the governments of all nations; but while we are doing this let us correct some of the evils that have sprung up thru our neglect in our own land. Autocracy in government means absolute, uncontrolled authority; self-derived power. Such authority is objectionable whether it be assumed or whether it is inherited. The right of a boss, or a few self-appointed men, to name the candidates for public office does not exist where the real democratic spirit prevails. It is just this kind of power we wish to see curbed in Germany.

Many people content and excuse themselves in this condition by declaring that we must have leaders. Granted; but a boss or autocrat is not a leader. A leader leads; a boss drives—a wide difference. The spirits of the two are different. The one usually has the common good at heart; the other works for selfish ends. Under a boss, people become slaves, with a slave's spirit. A wise leader inspires the development of the individual.

I once saw an intelligent, successful man at the election house where a township election was being held, take up the sample ballot, look over the names of the candidates, crumple it up and walk out without voting, grumbling about the kind of men he found named on the ticket. Now, I know that this man had not taken the time to attend the nomination; neither did the other ''good'' men of the community, but a handful of politicians got together and apportioned the offices among themselves. The ''good'' men of the township were to blame for the poor ticket, and for the consequent mismanagement of township affairs.

Autocratic party machines are built up thru the supineness of the ''good'' people. It is surprising, but the party spirit of these ''good'' men is often stronger than their democratic spirit and they will ''go along'' with the gang rather than have the party beaten. Pride of party is stronger than pride in self, and it does not seem to wound their self-respect to exist merely as numerical puppets to be counted in support of hand-picked candidates. Too many critics of our weaknesses of political conditions spend their time ranting at the bosses instead of inspiring the common people to perform their duty and act their part. The short-comings found in democratic government are mostly due to neglect on the part of its citizens, not to weakness of the system. There are always to be found those who will take advantage of an opening left by the people to step in and perform work to their personal advantage, and at the expense of the people themselves.

The harm to a state or nation which comes from the autocratic control of party bosses is not alone in the resulting misuse of power and money, but it also tends to stultify the citizenship. It is a serious thing for a people to be ''corrupt and contented.'' It is bad enough if the governmental affairs of a place are corrupt, but it is doubly bad if the people are contented with them. The familiar lines of Pope may be applied here:

''Vice is a monster of such frightful mien,
That to be hated needs but to be seen;
But seen too oft, familiar with her face,
We first endure, then pity, then embrace.'

The continuation of a democracy demands the intelligent discharge of the citizens' duties. These duties include the work of choosing the candidates for public representatives as well as dropping the ballot into the box. In fact, it is in the former action that real freedom exists and differentiates between monarchial and democratic governments.

A 10-20 TRACTOR BINDING WHEAT AT COST OF 13 CENTS PER ACRE ON A. W. SENSENICH FARM, LANCASTER CO., PA.

Late Sowing of Rye

An editorial in the Pennsylvania Farmer for August 18 gave several cogent reasons why many eastern farmers would do well to pay more attention to the growing of rye. It seems to me that one of these deserves to be restated and strongly emphasized: This is the fact that late sowing is much safer with rye than it is with wheat. There is a large area in which the possibility of both late and safe sowing is a matter of great importance; this because it is so generally desired to follow corn with a crop of grain, and corn does not always ripen early enough to allow wheat to be sown at the proper time.

Where my early farming days were passed it was customary to allow the corn crop to fully ripen and to follow it with rye. A few growers sowed the rye in the corn just before its last cultivation but the common method was to defer the sowing until the corn was off the ground. My father's plan, which I always followed because I never found one better adapted to the conditions under which I worked, was to cut and stack the corn as soon as it was ripe and after it had partly dried draw it to a plowed spot near the barn where it was put in large stacks and left until it was time for husking. As soon as the corn was off, the land was fitted and was then sown to rye.

One fall a part of our rye seeding was delayed far beyond the usual time. In fact, it was so late that on about one-fourth of the field the seed did not grow until the following spring. Yet we had fully an average yield of grain and straw, both of which were of good quality. Of course, this was an extreme case, but I have known many quite late sowings to be followed by crops which ranged from fair to good.

It is true that very late sowings will involve some risk of a partial failure of the crop. Except in an emergency it is not to be recommended. But, while it is likely to be later than the date which is generally considered the best for doing this work, I think it is reasonably safe to sow rye after a crop of corn has been taken from the ground. When the sowing is late, a little more seed should be used than would be required earlier in the season, and special care should be taken in preparing the land for its reception.—Elliot.

THE MODERN WAY OF "RAISING" POTATOES.

Controlling Quack Grass

We have found the spring tooth harrow a most efficient tool in controlling quack grass. When the campaign for larger crops was started this spring we plowed up about seventy-five acres of land which had on it a very heavy quack grass sod. This was disked twice after plowing and then the various fields were given different harrowings as they were made ready for planting.

We found that when the spring-tooth harrow was put on the field immediately after it was disc-harrowed, and was then followed by the spike-tooth harrow, the quack grass was easily controlled; provided, of course, that cultivation was kept up. Illustration shows a potato field six weeks after planting. This field has not had any hand hoeing. Weekly horse cultivations, after the preparations outlined above, have enabled us to keep down the quack grass.

In using the spring-tooth harrow, however, one precaution must be observed. Always harrow in the same direction in which the field was plowed. One-half of a three-acre field which was planted to peas was spring-tooth harrowed, by mistake, in the opposite direction from that in which it was plowed. The sod was badly ripped up, much of it was brought to the surface and immediately began to grow. As a result we have had to resort to hand-hoeing to keep this half of the field free from the obnoxious weed. On the lower half of the field, which was harrowed in the same direction it was plowed, the quack grass has failed to appear and no hand-hoeing has been necessary.

On another field, on which we planted cabbage, we omitted the use of the spring-tooth harrow for lack of time. The field was allowed to remain unworked for about two weeks after disking, and the quack grass obtained a good start. Then the spike-tooth harrow alone was used on the field. The field was marked out, and fertilizer applied in the rows, but before we were ready to plant, the quack grass had covered the field. Ridging rows under these conditions was out of the question. However, rather than prepare the field again, we decided to fit up and try a combination cultivator and ridger. All but the two front teeth were removed from a cultivator. The two disks were attached on the rear side shanks. This was then drawn thru every row. It tore up the sod and weeds in the row and, at the same time, threw fresh soil on the row, thus preparing the bed for the plants. Cultivation between the rows kept down the remaining weeds.—H. Eisenberg, New Jersey.

About 400,000 silos are believed to be in the United States, with a total capacity of about 31,000,000 tons, an average of nearly 78 tons per silo. About 10 tons of silage can be obtained from one acre. No census has ever been made of the number of silos, therefore the crop reporters of the Bureau of Crop Estimates have made estimates for their respective localities.

A Little Poultry Farm Worthwhile

How Experience and an Idea Have Brought Success

By J. RAYMOND KESSLER, Chester County, Penna.

We hear of many successful poultry farms thruout our country, few of which would resemble what is written about them should the reader visit the site. However, in the case of F. A. Tiffany, proprietor of a one-man poultry farm in Chester County, I believe we have the exception to the rule. I should not call it exceptional by reason of the large profit it has returned the owner because nothing of that sort has occurred, but I should class it as exceptional because of its steady and sure growth each year and its worth as a business proposition. There is nothing of the get-rich-quick nature about this farm but it does return the proprietor a good living, not to mention the steady increase in the value of the plant.

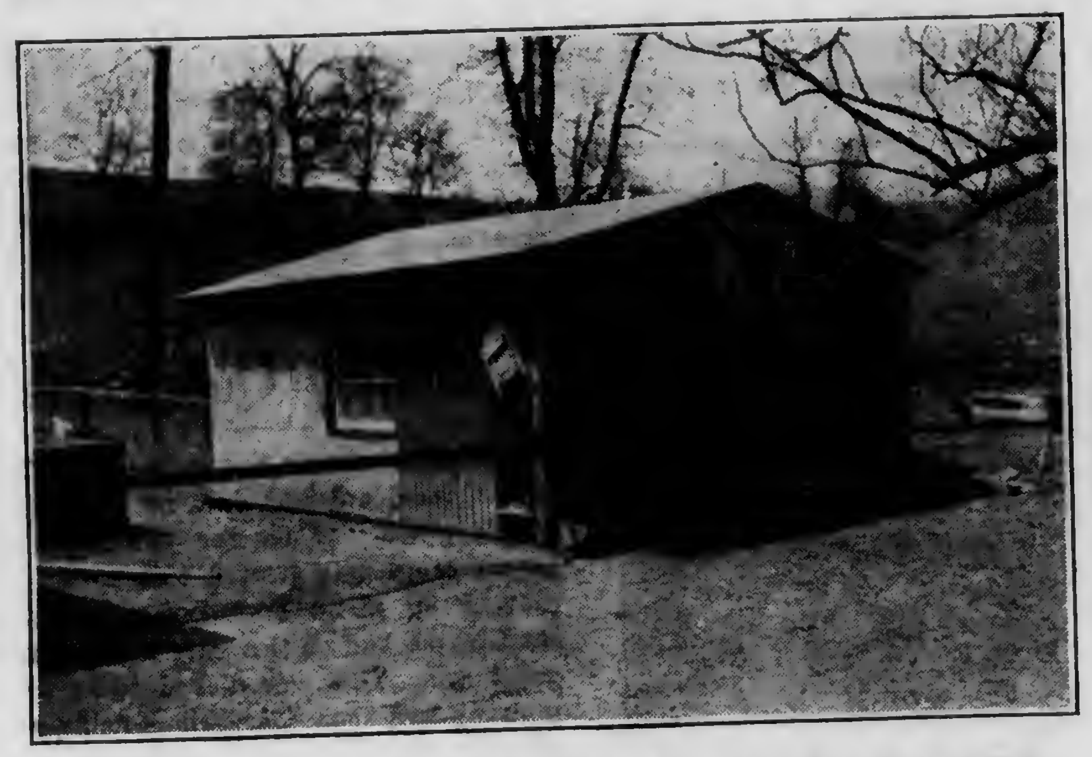

FIG. 1. COLONY HOUSE 12 x 12 FEET FOR 150 CHICKS OR 40 HENS.

Much of Mr. Tiffany's success on this small farm is, I believe, due to his wide and varied experience as a farm manager before coming to his own plant—sixteen years of success being his record with poultry. Twelve of the sixteen years were spent as manager of two large commercial poultry farms, both of which were planned and erected in accord with Mr. Tiffany's ideas.

While manager of these farms Mr. Tiffany purchased his present small farm of six acres with the idea of starting a poultry farm of his own. He felt sure that such a venture could be made to show good returns if the greatest effort was made in the direction of supplying the demand for really good hatching eggs, day-old chicks and breeding stock from a few good breeds of poultry, provided all the work could be done by himself without hiring outside labor.

Four years ago Mr. Tiffany decided to try out his plan. He found it necessary to mortgage his farm to some extent to purchase stock and equipment and erect a few necessary buildings. One hundred Silver Wyandottes and fifty Rouen and Pekin ducks made up the original stock. Two old hen houses on the place were remodeled and additions built to them to make quarters for the stock. The small stone barn the place afforded served as incubator cellar the first year.

Small colony coops were constructed by the owner as needed for young chicks, and plans were made for the construction of a combination incubator cellar and brooder house which was completed the following spring. Two large stationary colony houses for the stock raised the first season were also erected during the summer so that by the time the plant was entering its second season things were well under way and quarters provided for every department.

About this time three other breeds of poultry—Partridge and White Wyandottes and Rhode Island Reds—were added to the stock, on account of the demand for chicks and eggs from these breeds. Considerable business was done in day-old chicks and hatching eggs the first season in spite of the hustle and bustle of starting a new plant.

FIG. 2. A RUNNING STREAM PROVIDES WATER FOR THE FLANT.

The second and third years, with a much larger flock of mature hens and ducks, quite a good business was developed in baby chicks and hatching eggs. Eggs were set so as to have hatches off by the first of March, and the machines were kept full from that time on until August. The second year the average production was 400 chicks and 200 ducklings a week. The third year the average number of chicks produced was increased to 700 with about the same number of ducklings. This is, of course, for the hatching season, lasting on this farm from March to August. Practically all this production was sold at fifteen cents each for the chicks and twenty-five cents each for the ducklings.

The demand for chicks has been much larger than the supply every year and the farm has hardly kept sufficient chicks for home needs during the past two seasons. Several thousand hatching eggs and some breeding stock have been sold each year but the sale of chicks has made the greatest returns and is gradually becoming the chief product of the farm. Mr. Tiffany plans to produce during the hatching season of 1917, his fourth year on his own plant, an average of 1200 chicks and several hundred ducklings a week.

A number of new incubators of the oil lamp type (large size) have been installed each season until the plant now has a capacity of close to ten thousand eggs every three weeks. This incubator capacity requires two cellars of the size shown in the photograph. The breeding flock from which the greater part of the hatching eggs are obtained consists of 800 hens and 60 ducks. It is planned to reduce the number of breeders to about 500 head another season and keep them at that size because Mr. Tiffany finds his farm too small to give sufficient space for a larger flock when cared for on the free range plan. Then, too, the large and increasing incubator capacity demands so much time that the owner feels that he could not properly care for a larger flock.

Mr. Tiffany has for some time been trying to induce neighboring farmers to take up pure-bred fowls of the breeds he raises, offering them stock at low prices and contracting to take all hatchable eggs produced during the season at a price above the market. A number of neighbors have tried this plan during the past two seasons and the results proved very satisfactory both to the farmers and the poultry farm. It is planned to extend this system as much as possible each year so that quite a large supply of hatching eggs can be secured without increasing the home breeding flock to such a size as would necessitate extra labor. Another advantage of the plan is that each farmer can carry a different breed, thus giving Mr. Tiffany a number of breeds of poultry without any danger of one flock mixing with another.

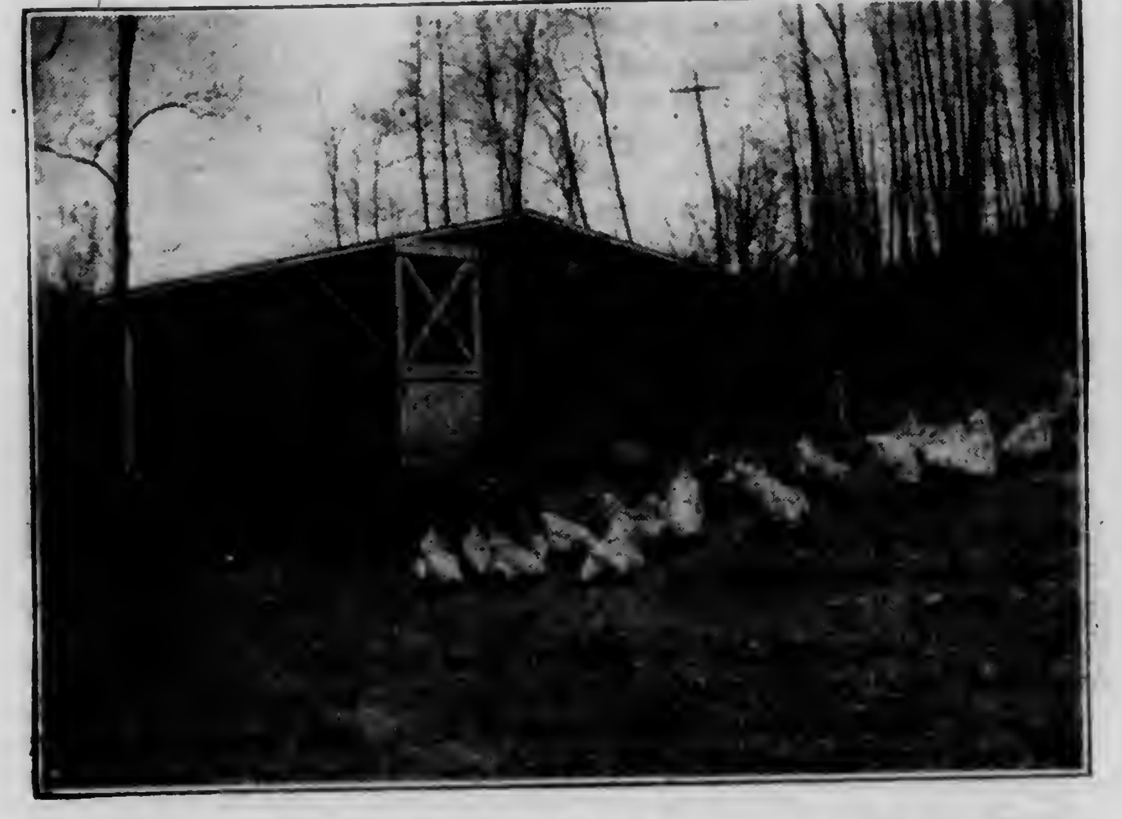

FIG. 3. SATISFACTORY STATIONARY COLONY HOUSE FOR 125 HENS.

The farm exhibits at many of the large poultry shows in the East and has won numerous ribbons. In fact, one entire wall of the farm office is covered with ribbons. The show room exhibits of this farm, combined with a judicious amount of advertising in the agricultural papers, has sold everything offered during the past several seasons. There is always some stock which can not be used for hatching. A store trade has been developed in a nearby town for this product.

The proprietor must do all the work himself and the methods followed are designed to secure maximum results with the very least labor possible.

A small stream of running water saves a great deal of labor, being the year-round supply for the entire farm, besides serving as a swimming place for the ducks. All colony coops used for housing the young stock are arranged along the banks of the stream, so the chicks can obtain water at will. Most of the houses for the mature stock are arranged so the flocks can secure their drinking water from the stream.

The only place it is necessary to carry water is to the small chicks in the brooder house and to a few special pens. Water is supplied in the houses whenever bad winter storms make it necessary to confine the fowls, but the flocks on this farm are confined very little, as the owner believes in free range the year round, to develop hardy birds that can be depended upon to produce hatchable eggs.

The flocks are fenced off from one another, but the yards are of such size as to furnish grass thruout the season. Some of the birds are confined to small pens containing ten hens and one male, but most of the stock is in flocks of about 100 birds, in large stationary colony houses.

Several types of houses have been built, but most of them face either south or east, with fronts containing large muslin screens and glass sash. The floors of the houses are of wood raised about two feet off the ground, to provide dry earth for dusting in winter and a cool place in hot weather. The houses are built of a single thickness of tongue-and-grooved boards, covered on the north and west sides with roofing.

Droppings boards are built against the back wall of the houses about

three feet from the floor. The boards are level, with roosts about a foot above them. Droppings are removed once a week. No curtains are used in front of the roosts, no matter how cold the weather.

A heavy litter of straw, renewed once a month, is kept on all the floors. The hens are fed a grain mixture of equal parts corn, wheat and oats in deep litter, morning and night, allowing about eight quarts in the morning and ten quarts at night to a flock of 125 hens. In addition to the grain, the following dry mash mixture is kept before the flocks all the time: 200 pounds wheat bran, 100 pounds middlings, 100 pounds corn meal, 100 pounds gluten, 100 pounds alfalfa meal, and 100 pounds beef scraps. In feeding it has been the owner's idea to give a small allowance of grain in the morning so as to make the hens hunt about during the day and then give sufficient at night to fill their crops.

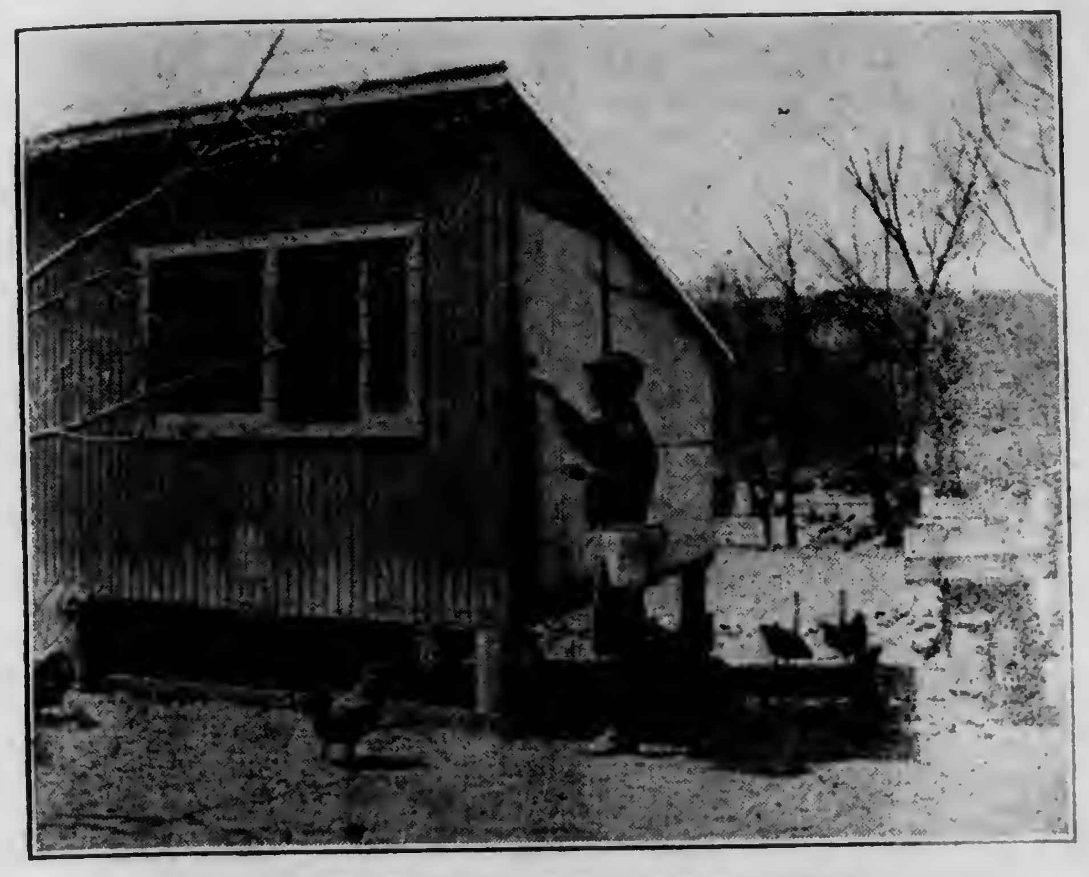

FIG 4. HOUSE RAISED TO PROVIDE SCRATCHING ROOM IN WINTER.

The ducks are kept in large flocks during the greater part of the year. During the breeding season they are divided up into small flocks of one drake and five ducks each. These breeding flocks are placed in small colony coops six feet square to which are attached large yards; in most cases access to the stream is had.

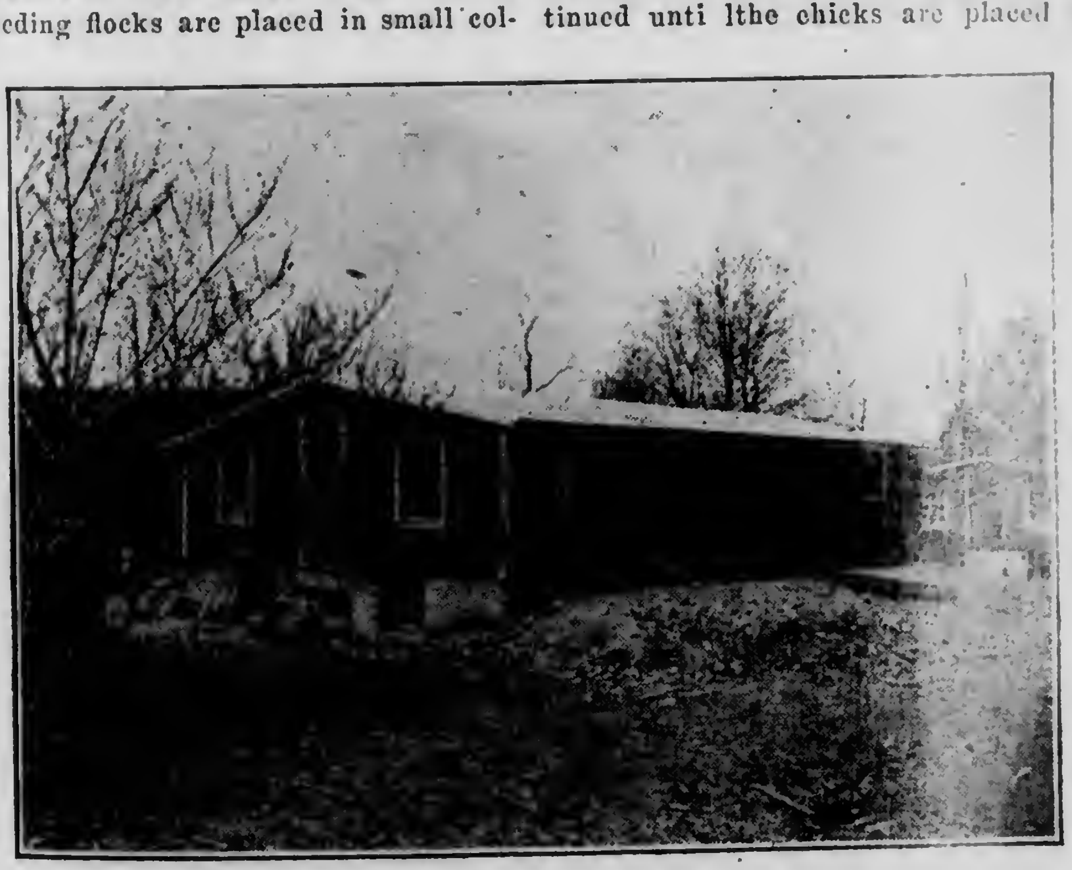

FIG. 5. HEN HOUSE WITH INCUBATOR CELLAR UNDERNEATH.

The ducks are fed the same mash as the hens, except that the gluten is left out. They are fed twice a day—night and morning. A flock of 125 ducks receives about three fourteen-quart buckets of mash in the morning and about five buckets of the same size at night.

The brooder house was built for use in raising both chicks and ducks and has worked very successfully. It is thirty-two feet long and twenty feet wide, one side facing east and the other west. The house contains eight pens, each six feet by eight feet in size—four pens on each side of a center passage way. The remaining length is used for a large feed room on one side, and for a heater pit on the other. The pen partitions are of two-foot wire above eight-inch boards.

For the first few days the young chicks are confined close to the hover, then they are allowed the run of the entire pen. After they are two weeks old they are allowed the freedom of the yards. When about eight weeks old the chicks are removed to the colony coops in flocks of fifty and are allowed free range for the summer. The young ducks are handled in somewhat the same manner.

The first few days the young chicks are fed on dry rolled oats three times a day. This is gradually replaced by a grain mixture, fed three times a day, consisting of equal parts cracked corn, cracked wheat and rolled oats. At this time a dry mash consisting of one-third each wheat bran, corn meal and middlings and ten percent beef scrap is placed before them in hoppers to be eaten at will. This feeding is continued until the chicks are placed on free range, when the ration is gradually changed to that fed to the mature stock.

The young ducks receive from the first a moist mash made the same as that of the young chicks. This mash is fed three times a day in such amounts as the ducklings will eat up clean. As soon as they are large enough they are placed in the colony coops with large runs attached. Three feedings a day are continued thruout the summer, but the mash is changed to the same mixture as fed to the mature ducks.

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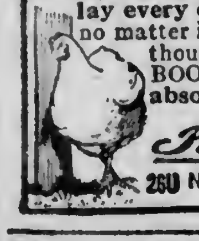

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PHILADELPHIA, PA., SEPTEMBER 15, 1917.

GOOD SEEDS

The article on first page gives results in the study of different varieties of wheat. A little study of the tables will show that certain varieties are better suited to this section than others. The differences in yield reported were not due to differences in methods of seeding, soil preparation or care. They represent the differences due to variety alone. A few bushels added by wise selection of seed is the cheapest possible gain. They cost only the difference in the price of the seed, which in many cases is negligible. It costs a certain amount to prepare a seed bed and sow the grain. A poor crop will not pay that cost. A good crop may yield a profit. Every bushel added above the amount necessary to pay the costs is just so much ''velvet''. If this ''velvet'' can be increased without increased cost thru the use of good seed, that is good farming. The matter of improving crop yields thru the use of better seeds is one of the greatest opportunities of the farmer.

The federal department of agriculture urges all farmers to buy farm seeds by label. The large seed dealers have agreed to label all seeds giving name of seedsman, kind of seed, proportion of pure, live seed present with month and year of germination test and county or locality of origin of the seed in the cases of certain legumes. All this is good, but in addition to this it is well to give attention to the adaptability of the variety, and, if possible, of the particular strain of the variety selected. We hope to have a number of articles reviewing the results that have been secured in various parts of the country in systematic seed selection, and pointing the possibilities of more care in the right selection of seeds for various crops.

* * *

FARMERS AND THE DRAFT

It is to be hoped that those having charge of the exemption work of the nation are sufficiently acquainted with the needs of agriculture and of its place in the economics of the nation with relation to the war to see the necessity of exempting farmers and their sons. We are making no plea here for sentimental or personal views or desires, but if the subject is considered with reference to doing what is best for the nation in its present undertaking, it is the duty of those in charge to exempt farm labor, especially farmers' sons.

The sons of farmers have always been the most dependable, efficient and satisfactory farm help. In fact, it may be truthfully said that they have been the main dependence of most farmers. Without their sons, many farmers would be forced to shut down business tomorrow. If those in authority think that the sturdy sons of the farm may be taken and their places filled by other boys and inefficient men, they will find themselves mightily mistaken. The farms cannot and will not be run with such help. The experiences in this direction during the past summer prove the falacy of such a proposition. England and France tried it and failed, and they have warned this country of their mistake. It would be equally short-sighted and disastrous to take them after October 1, as has been proposed. Much of the heaviest work of the year is required between that and January 1. Besides that, if we may depend upon the advice of the government, next year's operations will be more important than this.

It is strange that farmers' organizations and all farm papers are not alive to the situation and presenting the actual labor conditions on the farms to government authorities and fully demonstrating the economic necessity of exempting farm labor so that this country may not pass thru the experience of a food shortage, and the hunger of other nations be increased.

* * *

COUNTY BREEDERS' ASSOCIATION

Bradford Co., Pa., farmers are taking an advance step in promoting the live stock interests of the county. Recognizing the bright future for the live stock business, and appreciating that ''anything accomplished today with proper vision for tomorrow is good policy'' a county breeders' association has been formed. This association proposes to co-ordinate the efforts of all members in promoting the breeding of purebred stock of all kinds and classes in the county. It starts with a membership of breeders representing four breeds of dairy cattle, one breed of beef cattle, and various breeds of poultry, horses, sheep and swine. One of the earliest activities of the association will be a consignment sale including all breeds and kinds of live stock to be held in October. Bradford County farmers have a way of keeping well to the front in agricultural activities, and this new association is another indication of a county spirit that might well be followed in other counties. County Agent D. K. Sloan, as usual, is found in the midst of the new movement; being secretary of the new association.

* * *

MORE LIVE STOCK

The present prices of beef, mutton and pork will induce a greater production of live stock. The man who has been feeding any one or all three classes and paying his feed bills will appreciate that actual profits are not large even at the apparently high market quotations. He knows that there is no profit on purchased feeds and it is only by the adaptation of his crop rotation and the production of as large a portion of the feeding ration as possible on the farm, that profits are being made. But for the man who is making such changes, who is growing or feeding good stock and who is feeding wisely, there is good money in the present live stock market.

The domestic demand is good. Wages are abnormally high and every man that wants to work has a steady job. That means that the American people are eating meat and will continue to eat it until retail prices go much higher than they are at present.

The export demand is abnormal and it must continue so for a considerable length of time. All reports indicate a constant decrease in herds in all of the warring nations. With the increasing shortage in forage crops there is certain to be a further decrease. As shipping facilities are depleted there will be a greater need of importing food in most concentrated forms. This means that our Allies will find it to their advantage to slaughter and consume still more of their animals, depending upon us to supply the animal foods rather than try to import roughage feeds and grains to maintain their herds. With our army in the field and more going over, we will need to export greater amounts of animal products for our own men. All of this means that there will be a constant demand which will take more meats than we have been producing in the past few years.

Nor will this demand cease with the ending of the war. It will require time to build up the live stock holdings abroad. There will be demands for breeding stock here, and for live stock products while the readjustment period is passing. Everything points to a good future for the conservative live stock producer. But it is no time to plunge. Feeds are expensive, and it will cost money to keep an oversupply of any class of stock. Buy or breed animals of good quality, grow as much feed as possible at home, feed everything that the animals can be made to eat, and buy high-priced grains and concentrates only as needed, and there should be good money in live stock feeding.

THE LABORER AND HIS HIRE

With all the misrepresentation and big stories about the farmer's present prosperity, which have gained currency thru the newspapers, it is almost impossible to impress the public with the truth of the matter. In spite of his natural tendency to be patriotic, and his desire to be fair, the farmer is beginning to lose patience, and those with an ear to the ground can hear the murmur of discontent.

Some months ago the country was highly excited by the exaggerated appeal to greatly increase production if we would avert famine in this nation and abroad. Farmers were appealed to in the name of patriotism to farm more and better, and they jumped into the task loyally and successfully—successfully so far as production is concerned. Everybody found fault, advised, scolded and proposed legislation. In no other business does the public presume to know more than those who conduct it. A food control bill was proposed and passed largely at the behest and dictation of everybody but farmers. They had little or no voice in its making, chiefly because they are not organized as are other industries—such organizations as they have being meager and inefficient.

The food control bill is law and must stand for the present. But there is necessity for wise interpretation of it by the officials, and it is in the interpretation that we wish to bespeak fairness and justice so that not only will farmers receive their just reward, but also that the future of agriculture may not be crippled and the nation left without ample food supplies. There has, as yet, been no demand and no necessity for unremunerative service in this country, and when the farmer sees other business continue under the old law of supply and demand, many of them making immense profits, he naturally resents the arbitrary setting of prices for his products without his advice and consent.

When the food control bill was in the making, it was thought that the minimum price proposed for wheat was mainly to insure farmers against loss from unforseen circumstances. But, in the administration of it, the prospects are that the minimum price will also be the maximum price. The law of supply and demand will be inoperative because the food administrator is considering the buying of all wheat at the flat minimum price, and warns us that it will not profit any one to hold back for higher prices. In considering a flat, minimum price for this year's wheat crop, however, farmers must not overlook the feature of price insurance. They must remember that there is a flood of wheat dammed back in the channels of trade by the submarine war, by obstructed traffic, and by closed ports. If the war should end suddenly, or the interferences with trade be removed and the stored supply let loose, then present prices would quickly tumble. In this way a guaranteed price, even tho it may be less than an open market would afford, would be of benefit to wheat growers.

The above is, however, an exception in agricultural products. No other one is stored up by war conditions. For instance, there is no great supply of corn, meat, or potatoes somewhere awaiting release. Yet it is proposed by some that our food administration set an arbitrary price upon corn, say 75 cents to $1 per bushel, in order to encourage beef production, and the sowing of wheat. Inasmuch as beef producers are at the mercy of packers as regards price, such setting of price, we believe, would be unwise and unfair. Unless there is a horizontal control of price for everything connected with the costs of farm production, we cannot see how flat, fixed prices for farm products can but work out to the disadvantage of farmers, and eventually to all concerned.

We are unable to see what further action by the government, so far as price regulation is concerned, is needed beyond the prohibition of gambling, speculation and the arbitrary control of prices by combinations. The law of supply and demand, if allowed full and free operation, will work no injury to any one, nor will it unjustly enrich anyone. It will furnish the necessary stimulus to production and not place one class in a position where others may charge partiality.

We have full confidence in the integrity and honesty of Mr. Hoover, but since he must be guided to some extent by the advice of others, we urge farmers to make their wishes known—something they have not done so far. Others have been clamoring and advising vociferously to the end that food may reach them as cheaply as possible regardless of the future of agriculture. They seem to forget that the expenses of farming have increased also.

HARRISBURG NOTES

Speeding Up.—The maximum of production consistent with care for the soil, systematic fertilization, adaptation of crops to soils and care in marketing will be the themes on which Farmers' Institute lecturers will enlarge this fall. The state Defense Commission provides the funds for the continuance of the farm counsellors in the field and has suggested some lines of activity while others were discovered in going over inquiries made by farmers. The announcement of the institute season is that the series will be conducted in five divisions, each in charge of a man experienced in such work. J. S. Groupe will succeed E. B. Dorsett, now chief of markets. The lectures will start November 13 and run until March 15 with the usual intermissions. The meetings will be on a basis of farms, but where there is need for it supplementary instruction or advice will be given, notably where it is found that conditions are suited for potato, cattle, bee, poultry and fruit raising. The State Defense Commission has arranged for the U. S. government to send federal speakers here to discuss food production, greater acre yields, conservation and similar topics. All told, the Farmers' Institute program seems to be the best in years.

The Movie at Institutes.—One of the features of the Farmers' Institute meetings this winter will be development of the moving picture as a means of demonstrating how things should be done and what results will be. The movie was first used a couple of years ago, but this winter with the funds to be made available by the Defense Commission there will be better opportunity to show things. Some of the views have been taken at experiment stations and have been passed upon by men who have studied the methods closely.

O'Neil's Wise Plan.—When the governor added to the list of unusually timed appointments by announcing selection of Insurance Commissioner J. Denny O'Neil to succeed Frank B. Black as state highway commissioner and Charles A. Ambler, a former speaker, to be insurance commissioner, there were numerous predictions that the road department would be plunged into politics. Not much was said about Mr. Ambler and he wisely said he was going to continue O'Neil's system. It is known that some prominent politicians have been urging O'Neil and some have been opposing him during discussion of a successor to Black. The men most influential with the governor have been taken with O'Neil's boldness and shrewdness. He has demonstrated the latter quality by declining to tear the department to pieces and by insisting that road construction go ahead conservatively and that abolition of toll roads be encouraged. Instead of ''firing'' several of the attaches denounced by men active in politics the commissioner threw out bids on ten contracts within 48 hours after taking office. The new commissioner also got in touch with half a dozen boroughs with a request that if they would not improve streets which are parts of state highways he would be glad to have an arrangement made whereby the state could help. If the new commissioner continues the way he started out, and he is noted for being shrewd, there may be credit for the Brumbaugh administration in spite of the governor.

Farmers Exempted.—The various district appeal boards have shown a disposition to be fair in regard to exemptions of farmers from the draft, but the failure of many applicants to observe the regulations and forms and to be reasonable may cause some trouble. Wholesale applications for exemption, some of them on flimsy grounds, instead of requests for extention certificates because of agricultural production, have caused some annoying situations. The draft boards have been sending to district boards farm, iron and steel, munition making and state police claims for exemptions. Quite a few farmers have been exempted, but they presented good grounds in a plain way.

Teachers and Labor.—The two crying needs of the rural districts, which have been hard hit by war and the draft, are farm hands and teachers. In a number of districts lack of both is approaching a dangerous situation, which state agencies are trying to overcome. Unfortunately, the efforts in some localities have been more by ink than effort.

Watch on Fertilizers.—Orders have been issued by the Department of Agriculture for close attention to fertilizers sold in the state, altho the general situation has been good. The demand for fertilizers this fall is greater than ever, due to the desire to get fields into condition for maximum production next spring and summer, and orders have been given for fall delivery in many isolated sections. Attention is also being given to the lime supplied and reports show a fair adherence to the standards set by the act. The number of farmers who have gone together on co-operative lime burning is reported as very large.

Interest in Beef.—Judging from reports which have come to the Capitol there will be greater attention given to beef this next two years and inquiry for good beef-type grade bulls has been at a rate which has rather surprised many people. The prices being paid now are believed to be fairly stable and this has turned attention to cattle raising. There is plenty of land in almost every county fitted for cattle raising which is not being put to its best use and if the owners and tenants do not get the best out of their properties in the next few years it will be their own fault, assert men who have been going about the state.

Important Ticket Ruling.—An opinion regarding the excess fare demanded on interurban trolley lines which will affect many people living in the country has just been issued. It was rendered in an Erie County case wherein the company demanded from each passenger who boarded a car without obtaining a ticket an excess fare, giving a slip which could be redeemed at the agency. The commission holds that it is unfair to penalize a passenger who has no chance to buy a ticket. In railroad cases it has been held that a company may demand an excess fare if a man boards a train without buying a ticket when he has opportunity to do so. In the case of people who board cars at rural stops where there is, of course, no agent, the case is altogether different.

Fire Prevention.—Fire Marshal Port has issued a call to people all over the state to help the general cause of fire prevention by cleaning up premises on October 9. He calls it ''Fire Prevention Day''. The marshall is preparing an appeal to farmers to help along the movement by reducing chances of fire to a minimum about their premises and to use the utmost care in burning brush.

More Tobacco Likely. — The fine prices which are in sight for the Lancaster County tobacco crop will likely result in extensive acreage devoted to tobacco next year in the southern central counties. There have been some inquiries made as to soils and as to plants. Years ago Dauphin, Cumberland and other counties in the Susquehanna valley raised much tobacco. The land has been largely given over to cereals since.

Where War Gardens Cut.—Officials of the State Department of Agriculture have been finding out some very interesting things about the operations of the war gardens in and about the cities. They have found that many of the gardeners, while engaging in the cultivation of gardens with the original intention of supplying themselves, have found neighbors willing to pay for fresh produce and have gotten after the business of the green grocer and the commercial trucker to an extent to discourage such persons. Of course, the business that has been built up this way is only temporary, but it has an effect in the smaller cities. Few of the war gardeners are storing anything. —Hamilton, Harrisburg, September 10.

NEW JERSEY FARM NOTES

Farmers' Markets.—No less than 20 municipalities in New Jersey have established farmers' markets during the present year, and in the majority of instances the patronage has exceeded the expectations of those interested. Particular conditions surrounding the farmers in some sections have held back the supplies but the buyers have demonstrated that the selling end of this type of a market is popular. The Department of Agriculture is urging the cities which opened markets late in the season or those which have not been entirely successful in the venture to decide this fall to resume the experiment next year. In this connection an official of the department recently stated: ''The system of planting and growing must be quite changed where wholesale selling has been practiced in the past. A producer to make the most of a nearby retail market should have small quantities in quick succession of different kinds of products. In this way he can attend the market each day, secure regular customers and establish a reputation for his goods.'' A number of New Jersey growers who steadily maintained that retail selling was not practical for them have found they were wrong. Where the produce is hauled to market, retailing can be carried on successfully. These farmers find that the extra time they spend selling in small quantities is the most profitable time in the year for them.

New Normal School.—The new state normal school for South Jersey, which is to feature both academic and the agricultural training, will be located in Gloucester County, probably at Glassboro. That municipality is most centrally located and has offered both a farm site and ground for buildings free to the state educational authorities. Altho once eliminated from consideration, Rutgers College, at New Brunswick, also the State Agricultural College, has been chosen by the State Board of Education as the place to train the teachers in agriculture.

Crops.—The monthly crop report of the Department of Agriculture, showing conditions on September 1, states that the average yield per acre for wheat has been 19 bushels, for rye, 19 bushels. Following is the report on the condition of the other crops, as compared with the same time a year ago: Oats, condition at time of harvest, 94 percent; corn, 85 percent; buckwheat, 85; potatoes, white, 73; sweet potatoes, 83; hay (all cultivated) average yield on acres, 1.53 tons; pasture, 75 percent; tomatoes, 78; cabbages, 78; onions, 85; apples, 60; pears, 52 and cranberries, 92.

School Credits for Farm Work.—The State Board of Education has decided to allow every school district credit, in the apportioning of the school moneys, for attendance of all boys who were absent from their classes during the past spring engaged in agricultural work on the farms. A question arose whether money could be given for any except pupils in actual attendance. In view of the nature of the boys' work, the State Board has decided that every school district, which followed the instructions of the Commissioner of Education, Calvin N. Kendall, in marking the absences of boys on the farms when making attendance reports, should be given credit in the apportionment of the moneys due each district on the basis of the number of scholars in classes during the period involved.—L.

NEW YORK LETTER

Great Inter-County Event.—Perhaps never in the state has so many farmers, agricultural experts and the general public taken part in so great an event as the Labor Day outing on the famous Peck Dairy Farm near Cortland. The plan and its successful carrying out was due to the spirit of fellowship and sharing of good things that dominate the well-known manager and part owner, Miles J. Peck, whose practical address at the close of the festivities was most interesting. An old time barbecue with the roasting entire of three fine young steers was the spectacular attraction that appealed to all, while the magnificent dairy and the general equipment of the farm, with its 264 acres of the finest cultivated crops to be seen anywhere in the state, received interested attention of various classes of those present. Over 11,000 people and literally miles of automobiles visited the farm and spent a day full of interest. All sections of the state were represented, with many prominent visitors from other states. C. J. Phillips, general superintendent of the Lackawanna Railroad, W. N. Giles, secretary of state grange. Ex-Senator Howman, of Binghamton and other prominent men addressed the great audience.

Crop Conditions.—Potatoes are going down under blight, with some rotting, but a fair crop was secured by many growers before these inroads began. Oats are quite badly damaged by recent heavy rains, and a large share of the acreage of the state is still out of doors. The yield was the best in years, if sprouting does not ruin it.

Bureaus to Help.—Farm bureaus located in its district covered by the Board of Appeals are asking permission to send representatives to appear before the board in behalf of farmers who in their opinion should be exempted from conscription on agricultural grounds. This is against the rules of the board, so affadavits are being prepared to aid in the work. It would seem that granges and all other agricultural organizations have been very negligent or helpless so far in the matter of protecting the source of food supply of the country, by appeals for exemption of real expert farmers from military duties.

Milk Situation Considered. — At a picnic meeting of Tompkins County dairymen at Dryden fair, the question of future prices for milk were discussed. The presidents of three county leagues, Cortland, Tompkins and Tioga, were present and addressed the audience. Federal price-fixing was deemed imminent and the feeling was that if real cost of production is followed as a basis of price fixing that the federal price will be as satisfactory as present methods. League loyalty was urged for purchase of feeds, for common protection and for future needs. Hon. N. F. Webb, the father of the milk dealers' bonding bill, was present and said the law protecting farmers still held good, reports to the contrary notwithstanding. He urged dairymen to make sure the dealers to whom they sell are bonded as required by the law.

Rural Schools Open.—The trustees under the old regime have begun the present school year rather early in rural districts. Very few districts are consolidating as yet. There must be many readjustments before the new township law can be appreciated by the state at large.

Price of Seed to Advance.—New York's leading seed men prophesy a decided increase in price of seeds another year. The only exception to an increase will be in corn. The market will be the shortest ever known in some lines, especially in cabbages and radishes, and an increase of 200 percent in these is looked for.—F.

FARM MEETING CALENDAR

Inter-State Fair, Trenton, N. J., September 24-28.
Dairy Cattle Congress, Waterloo, Ia., October 1-7.
Eastern States Exposition, Springfield, Mass., October 12-20.
National Dairy Show, Columbus, O., October 18-27.
American Pomological Society, Boston, Mass., October 31-November 4.
Short Courses in Agriculture at Rutgers College, New Brunswick, N. J., open Nov. 20.
International Live Stock Exposition, Chicago, Ill., December 1-8.
Pennsylvania State Grange, Williamsport, Pa., December 11-13.

FAIRS NEXT WEEK

	Pennsylvania	
Bradford	Athens	Sept.17-22
Cameron	Emporium	Sept.18-20
Mercer	Mercer	Sept.18-20
Armstrong	Dayton	Sept.18-21
Clearfield	Clearfield	Sept.18-21
Luzerne	Dallas	Sept.18-21
Somerset	Meyersdale	Sept.18-21
Tioga	Mansfield	Sept.18-21
York	Hanover	Sept.18-21
Berks	Reading	Sept.18-22
	New York	
Otsego	Oneonta	Sept.17-21
Madison	Brookfield	Sept.18-20
Suffolk	Riverhead	Sept.18-21
Albany	Altamont	Sept.18-21
Oneida	Boonville	Sept.18-21
Allegany	Angelica	Sept.18-21
Franklin	Malone	Sept.18-21
Genesee	Batavia	Sept.18-21
Rockland	New City	Sept.19-22
Tompkins	Ithaca	Sept.19-22
Ontario	Canadaigua	Sept.20-22
	New Jersey	
Somerset	Far Hills	Sept.21-22

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Story of Two Dairy Bulls

Example of the Folly of Using Scrubs Sires

By CLARENCE M. BAKER

Is the bull at the head of your dairy herd capable of producing daughters that will have a higher butterfat production than their dams? Or, on the other hand, is the amount of butterfat production from the younger cows in your herd dwindling because the herd bull comes from a dam whose record is less than 400 pounds of butterfat for one year? Do you want to increase the butterfat production of your herd by proper breeding?

These are some of the questions which are graphically answered by an exhibit of dairy cattle shown by the dairy department, Ohio State University, in co-operation with the state board of agriculture at the Ohio State Fair last year. Twelve average dairy cows of Jersey breeding, all purebreds, were brought from the Winona Cow Testing Association of Columbiana County, O., where they had been on a test for the previous four years. Six aged cows were shown with six daughters, cows 1, 2, 3, 4, 5 and 6 being the dams of cows 101, 102, 103, 104, 105 and 106, respectively. Cows 1, 2 and 3 were bred to sire A; his dam's record is unknown. The daughters of this sire are cows 101, 102 and 103.

Cows 4, 5 and 6 were bred to sire B; his dam's record also is unknown. The daughters of sire B are cows 104, 105 and 106. All the cows have been under practically the same conditions for several years and the daughters have but little common difference except for their breeding. As no records of the dams of the sires are known, they were undoubtedly selected as sires because they were "good lookers".

Cow 4 as a 6-, 7- and 8-year-old produced 330.9, 346.9 and 304 pounds of butterfat respectively, having an average of 327.3 pounds. Cow 104, daughter of cow 4 and sired by B, has a record at two years of age of 217.2 pounds of butterfat. Estimating that this cow will gain in butterfat production at the rate of 0.1 pound per day until five years of age, her record at five years should be 326.7 pounds. This estimate is based on the requirement of the breed in qualifying for the Register of Merit. This daughter, however, falls only 0.6 pounds below her dam in butterfat production.

Cow 5 as a 7-, 8- and 9-year-old has records of 288.8, 286.5 and 309.4 pounds of butterfat, having an average of 294.9 pounds. She likewise was bred to sire B, the daughter being cow 105. The daughter has a record as a 2-, 3- and 4-year-old of 187.3, 184.2 and 177.8 pounds respectively, making her average 183.1 pounds, or an estimated record at five years of age of 242 pounds. This would be 52.9 pounds less than her dam; she would return to her owner $15.87 per year less than her dam. (Butterfat is estimated at 30c per pound.)

Cow 6 as a 9-, 10- and 11-year-old produced 352.1, 318.9 and 296.5 pounds respectively, having an average of 322.5 pounds; her daughter, cow 106, sired by B has a record of 276.9 and 228.5 pounds at 3 and 4 years, making her estimated record at five years, 296.5 pounds. This would be 26 pounds less than her dam or she would return to her owner $7.80 less than her dam. The average decrease of the daughters of sire B was 26.4 pounds butterfat for each cow per year.

The six other cows tell a different story. Cows 1, 2 and 3 were bred to sire A whose dam's record is unknown. His daughters are cows 101, 102 and 103. Cow 1 produced at 12 and 14 years of age 310.4 and 290.8 pounds of butterfat respectively, making an average of 300.6 pounds. Cow 101, the daughter of cow 1, sired by A made a record of 320.2 and 309.2 pounds at three and four years respectively, having an average of 314.7 pounds. Her estimated production at five years of age would be 358 pounds or 57.4 pounds more than her dam. In money she would return her owner $17.22 per year more than her dam.

BULL A.—THE SIRE OF COWS 101, 102 AND 103.

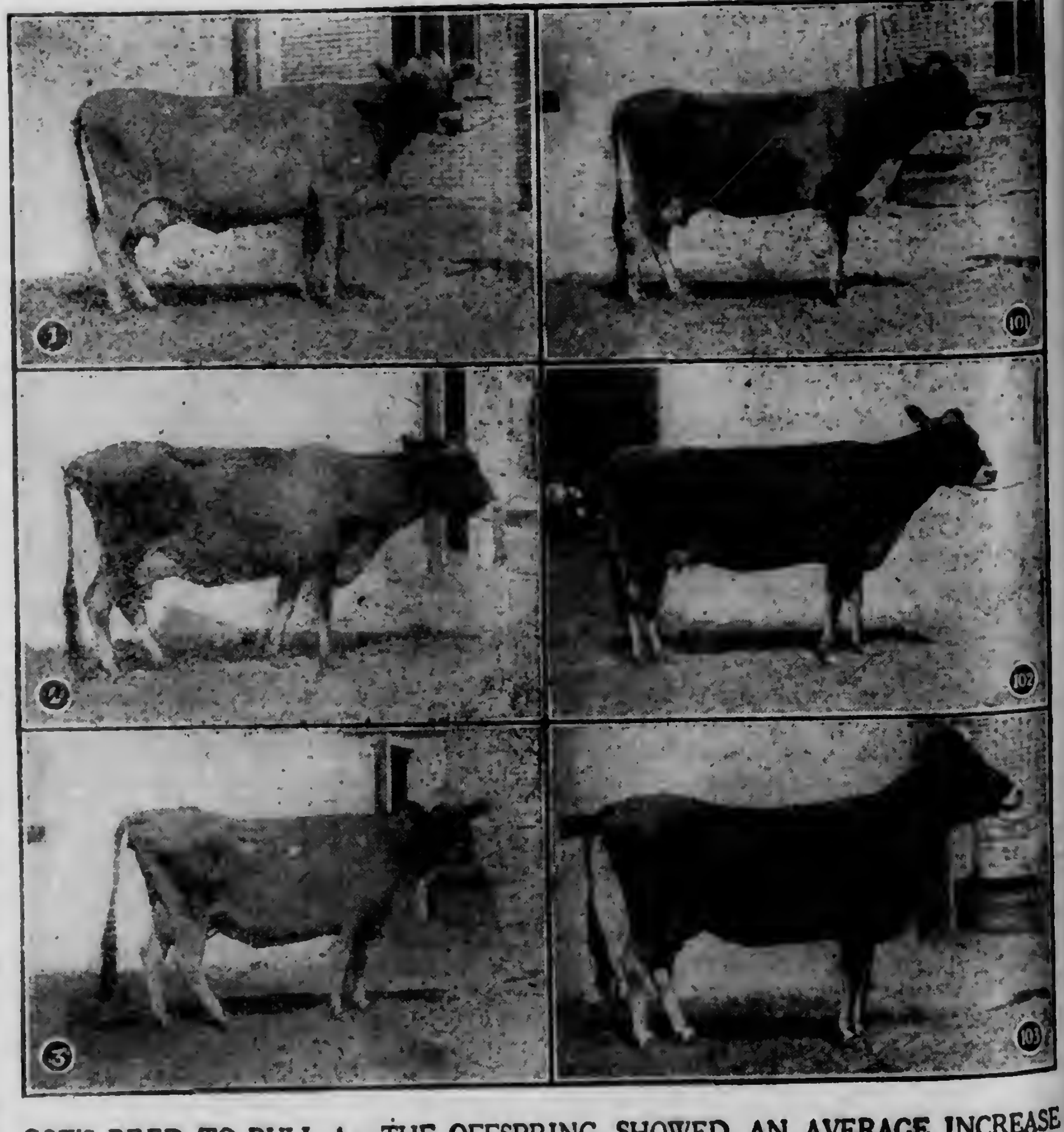
Cow 2 is only a four-year-old but has a record of 309.2 pounds of butterfat; her estimated record would be 345.5 pounds. Her daughter, cow 102, sired by A, has a record at two and three years of 265.2 and 377.5 pounds respectively, her estimated record at five years of age being 402.1 pounds. This would be 56.5 pounds more than her dam; she would return her owner $16.95 more per year than her dam.

As a 10- and 11-year-old, cow 3 has a record of 358.4 and 371.9 pounds respectively, making an average of 365.2 pounds. Her daughter, cow 103, likewise sired by A, has a record at four and five years of 367.3 and 397.8 pounds or an average of 382.6 pounds. Her estimated record would be 395.0 pounds at five years of age. This would be 29.8 pounds higher than her dam—a gain of $8.94.

The average increase of butterfat production where sire A was used was 47.9 pounds per cow per year. This would mean an increase in returns of $14.37 from the daughters over their dams, while the daughters of sire B are showing a loss of $7.92 as compared with their dams.

Furthermore, the influence of the bull is shown by the fact that sire A has nineteen daughters with an average of 336.2 pounds butterfat while 14 daughters of sire B average only 232.9 pounds. Then if bull A had been the sire of cows 104, 105 and 106 their records would have been 74.3 pounds per cow per year higher; for while the daughters of sire B were losing 26.4 pounds per year per cow, those of sire A were gaining 47.9 pounds.

Experts in charge of the exhibit stated that they would estimate the record of the dam of sire A at approximately 400 pounds, for his daughters were close to this mark. Production of B's dam would be about 300 pounds, considering the average of his daughters. It is impossible to note any physical superiority in either bull, altho the farmer or dairyman generally states (after he learns the records) that he would have picked A as the better bull.



COWS BRED TO BULL A.—THE OFFSPRING SHOWED AN AVERAGE INCREASE OF 47.9 LB. BUTTERFAT PER YEAR OVER THE DAMS.

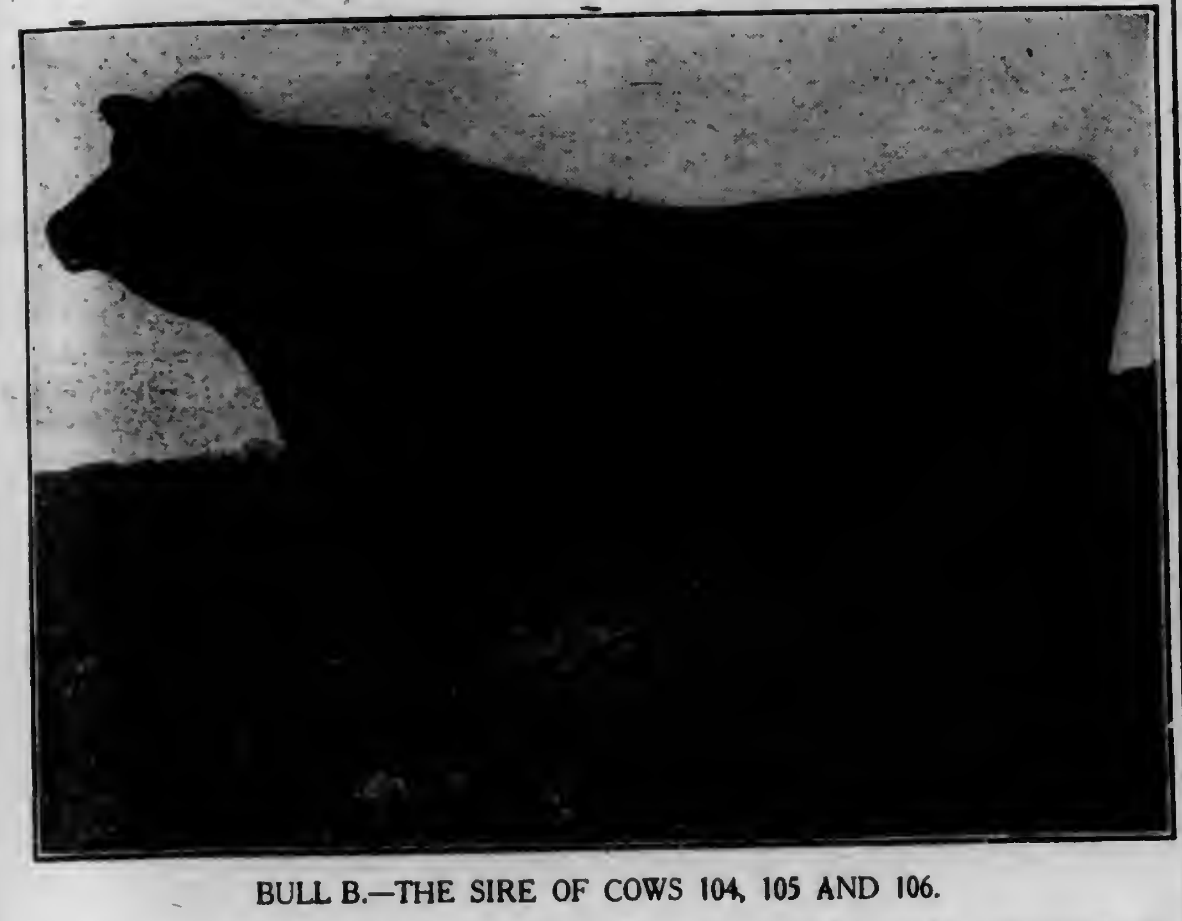
Many who saw the exhibit asked, "How can I select a bull that will put better individuals in my herd?" After four years of testing in the Winona Cow-Testing Association the work of the two bulls became evident and then revealed that much money had been lost by the selection of a poor bull. A lesson is evident from these two bulls.

First, when the breeder selects a bull from his own herd, the choice should be from a tested cow. (A testing association enables the dairyman to keep tab on every cow.) If a cow produces 400 pounds of butterfat or more, then notice what her sisters are producing. If they are in the same class and daughters of the cow are good producers, a bull calf from the cow usually will transmit high producing qualities to his daughters. Then, by the time the bull is three or four years old, his daughters can be tested and his actual merit determined.

Second, if a bull is selected from another herd practically all dairy experts agree that the breeder who selects bulls from 400-pound dams will run no possibility of lowering the butterfat production in developing young stock.

A final concrete example is given in the results of the Winona Cow-Testing Association from which all the preceding records were taken. In 1913 the average butterfat production of 300 cows was 285.6 pounds; in 1914 it was 291.5 pounds and in 1915 it was 300.6 pounds. Thus the average production of each cow was raised 10 pounds during the last year. Did they do it by selecting sires without any knowledge of their breeding and records of their dams? Will they continue to use sires like B?

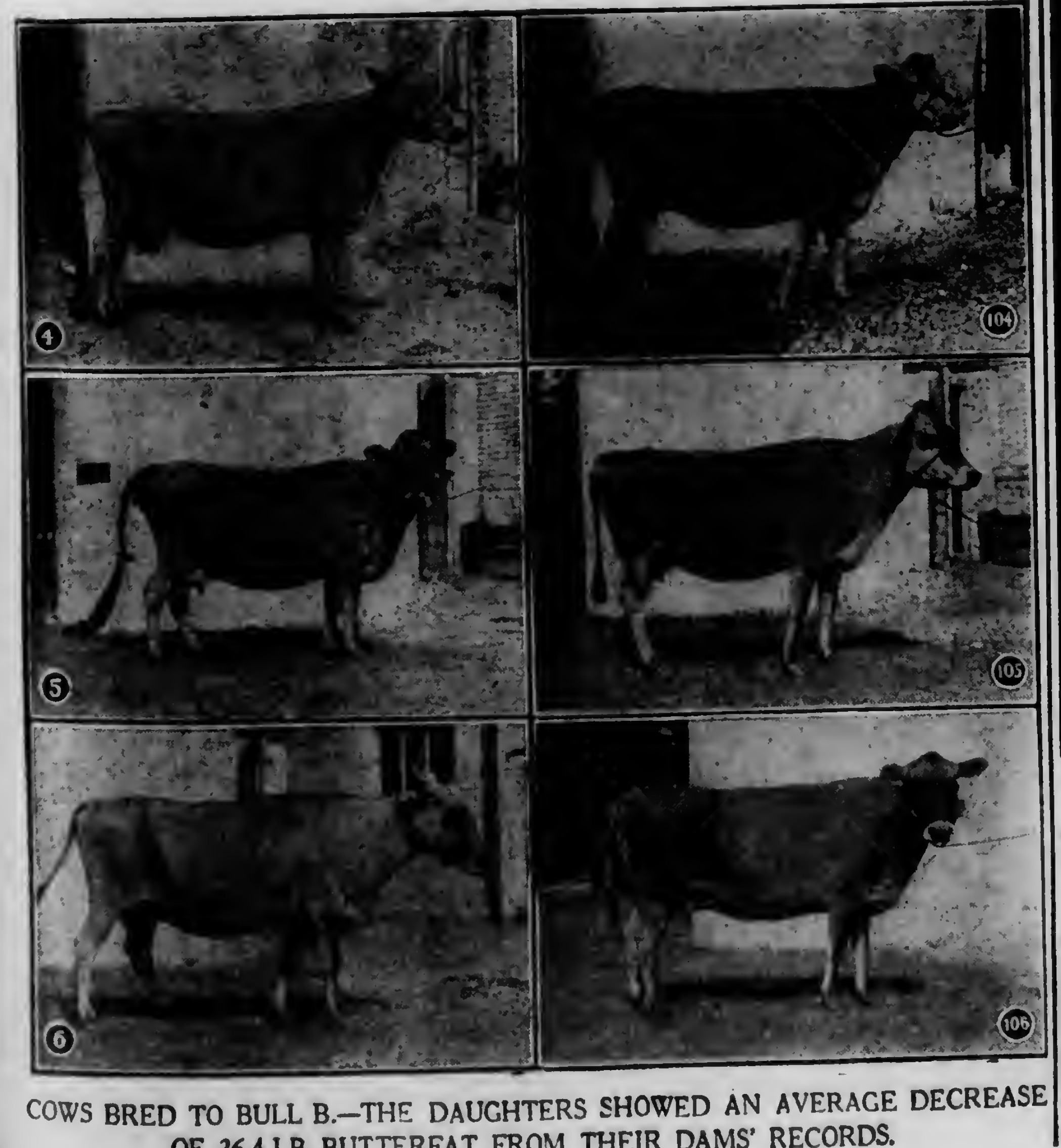
Note.—Figures in this article are as they were given at the fair. While there may be some errors, due to the theoretical way in which they were derived, such errors in no way detract from the fundamental principles involved.—The Editors.



BULL B.—THE SIRE OF COWS 104, 105 AND 106.

USE TESTED SIRES

The value of the tested sire has been further illustrated by the Missouri College of Agriculture. Sultana's Virginia Lad was selected as the herd sire at the age of five years on account of the excellent milking qualities of his daughters, altho none of them had ever been tested for Register of Merit at the time he was purchased. The first



COWS BRED TO BULL B.—THE DAUGHTERS SHOWED AN AVERAGE DECREASE OF 26.4 LB. BUTTERFAT FROM THEIR DAMS' RECORDS.

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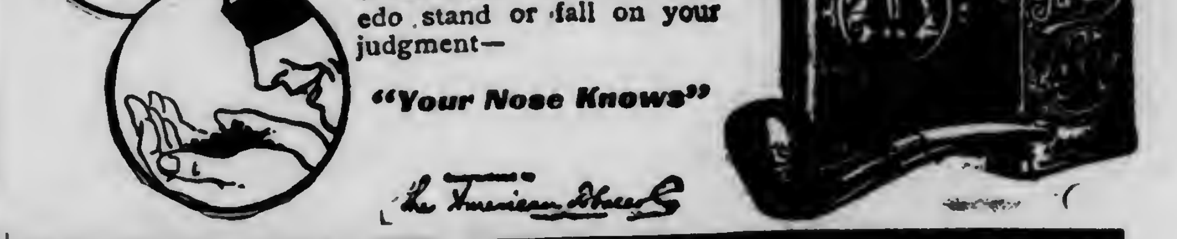
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Feed the Fighters! Win the War!
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On the battlefields of France and Flanders the United States boys and the Canadian boys are fighting side by side to win for the World the freedom that Prussianism would destroy.

While doing this they must be fed and every ounce of muscle that can be requisitioned must go into use to save this year's crop. A short harvest period requires the combined forces of the two countries in team work, such as the soldier boys in France and Flanders are demonstrating.

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A reciprocal arrangement for the use of farm workers has been perfected between the Department of the Interior of Canada and the Departments of Labor and Agriculture of the United States, under which it is proposed to permit the harvesters that are now engaged in the wheat fields of Oklahoma, Kansas, Iowa, North Dakota, South Dakota, Nebraska, Minnesota, and Wisconsin to move over into Canada, with the privilege of later returning to the United States, when the crops in the United States have been conserved, and help to save the enormous crops in Canada which by that time will be ready for harvesting.

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An Identification Card issued at the boundary by a Canadian Immigration Officer will guarantee no trouble in returning to United States.

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five daughters of this bull to freshen in the University herd have an average production of 9,000.3 pounds of milk and 511.03 pounds of fat as two-year-olds. This is an average percent increase of 76.6 in milk and 86.3 in fat over the average production of the first lactation of their dams.

Two of these daughters have dropped the second calf and have started their lactation period by producing 1,416 pounds of milk containing 87.28 pounds of fat and 1,284 pounds of milk containing 82.32 pounds of fat respectively during the first month. The production of 87.28 pounds of fat in one month is the record of the herd for that length of time. These figures show that the sire may be even more than half the herd.

The use of the tested sire has been emphasized all the more by present high feed prices. The offspring of the tested sire will usually use feed more economically and produce more than those of the scrub sire.

Cost of Producing Milk

Figures Show 6 1-3 cents Per Quart

By W. H. ROTHENBERGER
MONTGOMERY COUNTY, PA.

In view of the fact that the Food Administrator will either fix or advise as to the price to be paid to the producer for milk, and the price to be paid by the consumer, it might be of interest to know just what it costs to produce it. The following is a record of ten cows which gave 72,082 pounds of milk in one year. The feed and labor costs are based on current prices, so the results show just what is costs to make milk under present conditions.

The amounts of grain, roughage and ensilage consumed are taken from Cow-Testing Association records, as is also the quantity of milk produced. The cost of feed is figured at local market prices. The other expenses of production are figured at their actual cost. A charge of 10 percent of the net cost of production is made for manager's services, risk of business and omitted items. Surely the one who oversees the business deserves more than hired man's wages, for he must exert himself both mentally and physically in addition to the regular dairy work by planning his business, figuring rations, keeping records, reading up on dairy matters, etc., while the laborer does not need to bother about these matters. He is also running a continual risk of loss from diseases, as abortion, tuberculosis, milk fever, fire, etc. While these cows are insured against fire, yet the amount of insurance carried would not cover the actual loss because it would be impossible to get cows with equal production records at this cost.

The figures show an actual cost of production of nearly six and one-third cents per quart, but without doubt most of the milk is produced at a higher cost since the average herd produces considerably less than 7,300 pounds of milk per cow. Of course a great deal of milk is made on cheap pasture which means cheaper but less milk, and if all costs are figured, the cost per quart of milk will be found to be just as high.

In looking over the itemized list of costs, it is not probable that the total will be any lower in the near future. A few of the feeds may make a small drop when the new corn crop comes on the market, but labor, equipment and the other costs are pretty sure of advancing so as to balance or perhaps increase the cost of production above what it now is.

9,370 pounds corn and cob meal @ $50 per ton	$ 234.25
3,957 pounds gluten @ $54 per ton	106.84
3,400 pounds bran, @ $44 per ton	74.80
3,871 pounds brewers' grains @ $48 per ton	92.28
2,778 pounds cottonseed meal @ $52 per ton	72.22
710 pounds hominy @ $50 per ton	17.75
2,073 pounds oats @ $53 per ton	54.93
10.34 tons mixed hay @ $14 per ton	144.83
2.78 tons corn fodder @ $5 per ton	13.90
2 months' pasture	20.00
63.72 tons silage @ $6 per ton	382.32
1,464 hours man labor on production @ 20 cents per hour	292.80
61 hours man labor to handle milk @ 20 cents per hour	12.20
365 hours man labor to haul milk @ 20 cents per hour	73.00
365 hours horse labor to haul milk @ 15 cents per hour	54.75
85 hours man labor to grind feed, go to mill, etc., at 20c per hour	17.00
56 hours horse labor to go to mill, etc., @ 15 cents per hour	8.40
12 percent depreciation on $950	114.00
6 percent interest on $950 invested	57.00
Taxes	7.50
Insurance	12.50
Disinfectants, fly spray, etc	2.50
Bull service	22.50
Use of buildings, yardage, water supply	40.00
Bedding	120.00
Equipment, as milking machines, grinder, etc.,	45.00
Milk Producers' Association stock	2.50
Testing association fees and board of tester	27.00
Managerial ability and business risks	194.12
Total cost	$2,316.89
Credits:	
80 tons manure recovered @ $2 per ton	160.00
6 calves when 4 days old @ $4 each	24.00
Milk used on farm, 1,400 pounds	35.00
Total Credits	$ 219.00

Net cost of 71,682 pounds sold; $2,316.89 less $219 leaves $2,097.89.
Cost per pound; $2,097.89 divided by 71,682 leaves 2.93 cents.
Cost per quart; 2.15 multiplied by 2.93 cents make 6.2995 cents or practically 6.3 cents.

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Marketing a Big Fruit Crop

A West Virginia Grower's Methods

It is one thing to grow a crop of fruit and another to market it to advantage. These are the days when orchardists must plan to market their crops in such a way as to realize the most profitable returns. Undoubtedly marketing is the greatest problem confronting fruit growers at the present time.

The experiences of Mr. S. H. Fulton, who is interested in commercial orchards at Sleepy Creek, West Virginia, in which cherries, peaches and apples are grown, and who is a prominent member of the West Virginia Horticultural Society, should furnish valuable suggestions for other growers. Mr. Fulton describes his marketing methods very interestingly as follows:

"I am free to say at the outset that I have no panacea to offer for our present marketing troubles. The question of marketing is a complicated one and mixed up with it is the question of over-production. Some advanced thinkers in the horticultural world say there is no such thing as over-production, that good fruit is always in demand at remunerative prices; but when a grower is forced, as many were in 1915, to accept 25 to 30 cents per half-bushel basket for car after car of large, fine, well-grown peaches, he is very liable to conclude that over-production really is a factor in the business.

Cherries

"In our Sleepy Creek orchards we grow three kinds of fruit, cherries, apples and peaches. So far as possible we sell our cherries directly to consumers and retail dealers, but the bulk of our crop is shipped on consignment for the reason that we cannot sell more than a small portion of our fruit at home. We pack our fruit in 32-quart berry crates and ship to New York and Washington, mainly the latter city. The stems are turned down and the fruit carefully placed in the top layer of the quart boxes, as we find the attractiveness produced by this extra attention makes the fruit sell to better advantage. In sections where canners handle cherries the fruit can be delivered to the factory in trays to be returned to the orchard, and the grower saves the cost of packages. We tried canning one season, using number two sanitary enamel-lined cans. We succeeded in putting up a very nice pack but found we had greatly enhanced rather than diminished the marketing problem. The demand for canned sour cherries is limited and the markets were so well supplied with Western New York fruit that we could not find buyers. We finally succeeded in disposing of the pack by retailing in small quantities of from one to ten cases in a lot, but sales were so slow that many leaks occurred in the cans before the whole lot was disposed of and the venture was not profitable.

Marketing Apples

"In marketing our apples we have tried both storing and selling direct from the orchard at a fixed price per barrel. In storing we have made use of cold storage, as we consider common or dry storage too hazardous. Cold storage may or may not prove a profitable venture for the grower. If the markets advance and there is not too much shrinkage in the fruit due to rots, etc., the grower may make money by storing. On the other hand, if the market declines or if there is much waste in the fruit, the grower may find after paying storage charges and taking such losses as come from shrinkage that he would have been better off to have sold direct from the orchard at harvesting time. If the man who stores his fruit is in position to sell direct from the storage house to retailers or consumers, he is in very much better position to realize a profit than if his only outlet is by the commission house route. On the whole, judging from our own experience, I am of the opinion that it is best to sell direct from the orchard in the fall if one can get a fair price. It must be admitted, however, that some growers are making money by storing and marketing their own fruit, but these men as a rule have worked up a trade for their apples and sell direct rather than ship from storage on consignment.

Methods with Peaches

"The easiest and most common method of marketing peaches is to ship to commission houses. While it is the easiest method of marketing it is not always the most remunerative. After freight, icing charges, commission, cartage, etc., have been deducted, there is often but little left to return to the grower. We are getting away from this method as fast as possible as it is wasteful and costly. The plan we are working on at present is to sell direct in carlots at so much per basket or carrier, f.o.b. the shipping point. Practically all our fruit has been handled this way in the past two years. We have sometimes been able to get as

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Original Double Disc Furrow Opener
The Moline-Monitor Original Double Disc deposits the seed in front of the disc bearings with the downward turn of the disc. Every seed is deposited in the bottom of a wide, compact, moist seed bed. Saves seed and increases the yield. Long wearing and cannot be clogged in mud, gumbo, weedy or stalk ground.
Single disc, shoe and hoe furrow openers can also be furnished. These are all interchangeable on Moline-Monitor Grain Drills.
Moline-Monitor Grain Drill
Requires one-fifth less seed than other drills. Increases the yield because every grain grows—has plenty of room to stool—makes sturdy stalks, deep rooted and full headed. The crop grades higher, because seed is planted evenly in compact, wide furrows, covered evenly with moist soil, germinates and sprouts at the same time and ripens uniformly.
The Moline-Monitor Grain Drill pays for itself—saves seed—increases the yield, and improves the grade.
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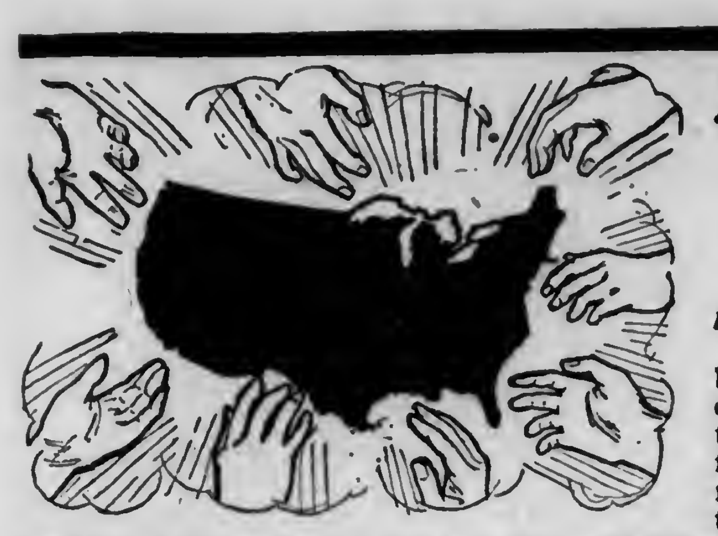

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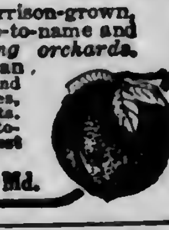

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much for our peaches at the loading point as the same quality of fruit was selling for on commission in the city markets and on the commission sales all expenses of course had to be deducted.

"One year we sold our whole peach crop on the basis of so much per carrier and basket f.o.b. cars. It is not often, however, that buyers will purchase a crop outright. They usually prefer to buy from day to day. Accordingly it is hardly worth while to dwell at length on this method of marketing.

"For the past two years we have employed a sales agent to market the crops from several orchards in which the writer and his associates are interested. This past season we marketed one hundred and twenty-five cars of peaches at a cost of a little less than two cents per carrier. The cost of marketing included salary and expenses of sales agent, telegrams, telephone messages, advertising, etc. When a sale was made by our agent we drafted on the purchasing firm as soon as the car rolled and with but few exceptions our drafts were promptly honored. A few firms turned down cars upon arrival, claiming the fruit not to be as our agent represented. The real difficulty, however, was that the buyer had agreed to pay more than his market justified and he would not stand for a loss. Usually we turned such cars over to another firm, frequently at a loss, and in the future avoided any dealings with firms which turned down our cars. On the whole we find the above method of marketing satisfactory, but some concerted action on the part of peach growers is needed to discourage unfair treatment on the part of buyers and to work up sentiment which will ultimately result in a demand upon the part of peach growers that all track sales must be on the basis of cash settlement before cars roll. It is unfair that the shipper should be required to stand all shipping risks and take chances on having cars refused at destination. The buyer can easily protect his interests by having a representative on the ground to inspect the fruit before settlement is made.

Co-operation Advised

"Small growers who are not in position to sell their fruit to advantage individually should co-operate with their neighbors. Co-operation, while it may not settle all the fruit growers' troubles, will do much for the fruit interests of the country. A local co-operative organization, known as the "Amalgamated Orchard Company" of which I am a member, has enabled us to get better prices for our fruit and to buy our packages and other supplies for less money. Another co-operative society organized on a larger scale, known as the "Martinsburg Fruit Exchange", operates in our section and while just recently formed was instrumental last fall in bringing much better prices for apples to its members than could have been obtained otherwise.

"The government thru the Office of Markets and Rural Organization is encouraging co-operation on the part of fruit growers and is in position to do good service for growers if they will take advantage of the assistance offered. Some of the state departments are also taking steps to help producers solve the marketing problem. Fruit growers should get back of this work and give it their hearty support. Local organizations should be formed and these in turn amalgamated into a central agency for each fruit district. It will take time to accomplish results and local organizations should not be too large at the start. A few men who understand each other and who can work together should form the nucleus for an organization and later other growers may be taken in.

"There are many reasons for co-operating aside from marketing the crop. Growers can co-operate to secure better service and equipment at the hands of the railroads, they can co-operate for mutual protection at the hands of buyers, they can co-operate for advertising the fruit of their own section, for the purchase of supplies, etc. Selling should be the last thing attempted. Selling is the rock upon which the ship Co-operation is liable to be wrecked. Low returns often engender hard feelings, jealousy, etc., until members get used to working together and have full confidence in each other.

The Auction Plan

"The auction system of selling, now being tried out by Food Commissioner Dillon, of New York State, is being watched with interest by producers all over the country. As a method of establishing prices for apples and other fruits the auction system seems very promising. California has gone directly into the commission business under a law approved in 1914. The director of the department may establish markets in any city or town of the state. The object of this legislation, is, of course, to give producers a more fair chance with middlemen.

"All the agitation surrounding the creation of these new Government and State Departments is opening the eyes of the fruit growers and they are beginning to view the marketing question in its true light. The unreasonable and bitter attacks of the trade papers upon these new departments portray the attitude of the middlemen toward these efforts to help the producer secure just returns for his products, and show clearly where much of the fruit growers' troubles lie."

Timely Fruit Notes

By Dr. J. P. STEWART

Poison Baits for Field Mice

"I have read with pleasure and profit your various bulletins on the fertilization and care of young and bearing orchards, and have taken note of your findings relative to the sod mulch system of growing trees.

"We have used about all systems in our various orchards and believe that the mulching of young trees, instead of the clean tillage, is the proper thing, but in one orchard, about forty acres, we have great trouble with field mice and rabbits in the winter.

"It has become very discouraging because of the damage these pests do to the trees, and in this orchard we have practiced the sod mulch from necessity, because the land is hilly and sandy, and washes badly with clean tillage.

"I would like to inquire what you have done in your various experiments to combat these pests, and if you have succeeded in doing so to the point of saving the trees. If you can suggest a method that we can use or try out, the coming winter, we will be very grateful to you."—E. B. S., Michigan.

The quickest and least laborious way of controlling mice is by means of a strychnine poison on appropriate bait. The following formulas have been successfully used, both here and by the Biological Service at Washington.

1. Dry Grain Bait.—Powdered strychnine, 1 ounce; powdered bicarbonate of soda, 1 ounce and saccharine, ⅛ ounce.

Mix, place in a tin pepper box, and sift gradually over 50 pounds of crushed wheat or 40 pounds of crushed oats in a metal tub, stirring the grain thoroly to distribute the poison evenly. If kept dry, this material will keep indefinitely without fermentation.

For use, distribute the poisoned grain over the infested area, using not more than a teaspoonful at a place and putting it into the mouse runs and entrances or burrows, so far as possible. The poisoning of birds can be avoided by placing the materials under shelters, such as weeds, brush or boards, or by placing it in small drain tiles or old tin cans with the edges bent partly together. This poison is especially satisfactory for the ordinary field mice.

Pine mice may best be poisoned as follows.

2. With Sweet Potato Bait.—Poison materials same as above but bait is made by cutting sweet potatoes in pieces about size of grapes. Place these pieces in metal pan or tub and cover with water. Drain off water and sift the poison mixture over them with tin pepper box, as noted above. An ounce of strychnine should poison a bushel of this bait.

This bait is most effective when dropped into the tunnels thru the natural openings, or thru holes made with a stick. Birds are not affected by this bait. (For further information see Farmers' Bulletin 670, U. S. D. A.)

Along with these measures, it is also advisable to clear away all vegetable materials for at least two feet from the trunk of the tree and mound them up to a hight of six or eight inches with soil, along in the fall or whenever the evidence of injury appears. A good coating of undiluted lime-sulphur solution applied to the trunk will also be beneficial in this connection. The latter poisons and coating will also afford some protection against rabbits, but a good series of hunting parties is likely to be most satisfactory against them.

THE FALL GARDEN

Too many people get very enthusiastic over the garden in the spring, but after the summer gets to its hight and the sun is hot, their enthusiasm declines and the garden runs into a riot of weeds, in which the cut worms breed for preying on the crops next spring, and the weed seeds ripen to make it harder to keep the garden clean next summer. The garden should be an all-the-year garden. In the Middle Atlantic States and southward, with some double-glazed hot bed sashes on well banked frames one can keep up the supply of lettuce most of the winter and with plenty of salsify, parsnips and leeks, mulched between the rows to keep the soil from freezing too hard, they can be gotten right from the garden all winter. Spinach sown now and the rows well mulched with stable manure will furnish greens in the fall and early winter, and another sowing the middle of September will give plants to winter over for the early spring cutting. Plants of brussels sprouts set in July will give their delicious little heads when frost comes, and some prefer these to cauliflower.

Fall Set Cabbage

The middle of September we sow seed of the Early Jersey Wakefield cabbage. From Baltimore southward the plants can be set in November and will winter and make the earliest heads in the spring. We run furrows east and west in heavily manured soil and in these add some commercial fertilizer and throw a furrow over these furrows from each side. On the bed thus made we open a furrow down the middle in which the plants are set deep enough to cover the whole stem. Then, when the bed is levelled down in spring, the plants come all right with the general surface. The deep setting is to protect the stem from being bursted by frost. Here we can set lettuce plants between the cabbage and they will head before the cabbages need all the room, the cabbage plants being set 16 inches apart.

The cold weather usually comes in gradually and the plants get toughened. But last fall we had a sudden hard freeze in November while the cabbage plants were still tender, and they were killed all the way down the Atlantic coast to South Carolina. It was rather odd to note in my garden that lettuce plants within ten feet of the cabbage plants were not killed and lived all thru the hard winter. They were the Hanson, which seems to be one of the hardiest varieties. As we get vacant land there are many things usually sown earlier, which can still be sown. The Early Milan turnips and even the Strap Leaved turnips will still make a crop sown early in September. I should have said in regard to the fall-sown cabbage plants that in colder sections the plants can be transplanted two or three inches apart in a cold frame and be protected in very cold weather with the sashes, provided the glass is not kept on them in mild and lightly freezing weather. That would keep them growing, while the object is to keep them dormant, so that they can be set in the early spring.

Radishes and Carrots.—The Chinese Celestial Radish can still be sown. This radish grows to a very large size and is excellent either raw or boiled like turnips, and the boiled radishes are even better than turnips. These radishes can easily be kept crisp by burying in a trench as celery is trenched. Carrots, too, keep well in that way. Here I leave the carrots in the rows where they grew. The frost cuts the tops but the roots seem to get sweeter for the freezing, and as our soil is open more than it is frozen in winter it is easy to get the roots up.

The middle of August I sowed seed of the Hanson and New York or Wonderful lettuce. These plants will be set in bed six feet wide and ten inches apart each way. The soil will be heavily fertilized and the growth pushed along by applications of nitrate of soda, and the heads should be ready in October and November.

Fall Lettuce

I sow for setting in the frames for Christmas cutting seed of the All Heart lettuce. This is similar to the Black seeded Tennis Ball and can be set closer in the frames than the Big Boston which the market gardeners use. But the smaller and more compact heads are better for home use. I have found in the growing of lettuce that the best lettuce cannot be grown with manure alone nor with commercial fertilizers alone. We need the soil stuffed with old rotten manure and then to use liberally commercial fertilizers during the growth of the crop, especially nitrate of soda. Lettuce to be good must be grown rapidly and never allowed to get stunted by lack of food or water.—W. F. Massey, Wicomico Co., Md.

POTATO PREPAREDNESS

If food is scarce or too costly in America next winter it will be due to public inertia and stupidity, otherwise known as "faulty distribution." Some communities seem aware of this. In New York the State Food Supply Commission has submitted to the governor a plan for a direct interchange of money and potatoes between farmers and consumers. To be successful any such plan must abolish the isolation and misinformation that have kept the two classes apart in the interest of profiteering middlemen. Otherwise town people will pay two or three prices above farm prices.

DID you ever notice that the homes one likes to visit most and stay in longest are most likely to be well painted? The cheery, thrifty appearance of such buildings reflects their owner's ability to make the most of life's good things.

There are families who think they have inherited gloomy dispositions. If they would only put new paint on their buildings it would help a lot to change their outlook on life.

Dutch Boy White-Lead

mixed with pure linseed oil, in its own pure white or tinted any color, is a paint which adds to cottage or mansion.

For outside use such paint gives long-lasting protection against all the attacks of weather.

Indoors, the walls and woodwork painted in simple soft tints with Dutch Boy white-lead and a flatting oil, give a feeling of roominess and lightness which cheer all occupants. All effects are easily obtainable from the deep, brilliant tones to the dull, velvety harmonies. These painted surfaces are always washable and therefore can be kept in their original freshness.

For color schemes for inside and outside painting and for much useful paint information write for Paint Points No. 136.

Dutch Boy Red-Lead

To make the most of the metal about the place, the railing, gutters, roofing, implements and machinery, means keeping away rust. This is most surely done by painting with Dutch Boy red-lead.

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POTATO PROSPECTS

The situation of the potato crop is far less favorable than is generally believed. In the last few weeks an epidemic of late blight and rot has spread thru the eastern states and now thruout southern New York and northern Pennsylvania the crop is already cut down to a yield far below the average. Tops are nearly all dead and the tubers are not only averaging small but are rotting badly. I hear the same from New England. It takes very thoro spraying to hold blight in check this year. Prof. Hardenburg of Cornell was here Monday to inspect my fields for certification by the state potato association and said that I had less blight than any others in this section. He said that he used the term "a trace of blight" in reporting on other fields that had 100 times as many blighted leaves as mine. The only place where we found more than a trace was the 3 acres out of 23 where I had sprayed twice extra for bugs and then omitted the next regular spraying. At that place which then went 14 days without spraying the leaves which grew in that time were attacked by the germs and killed, a lesson that more frequent spraying is needed in blight epidemics. With seven and eight sprayings my crop is now a solid mass of green while practically every field for many miles is either dead or dying. The thousands of bushels I will get for spraying this year would pay for all my spraying for the past 13 years.—Daniel Dean, N. Y.

TRADE IN LAST YEAR'S WHEAT

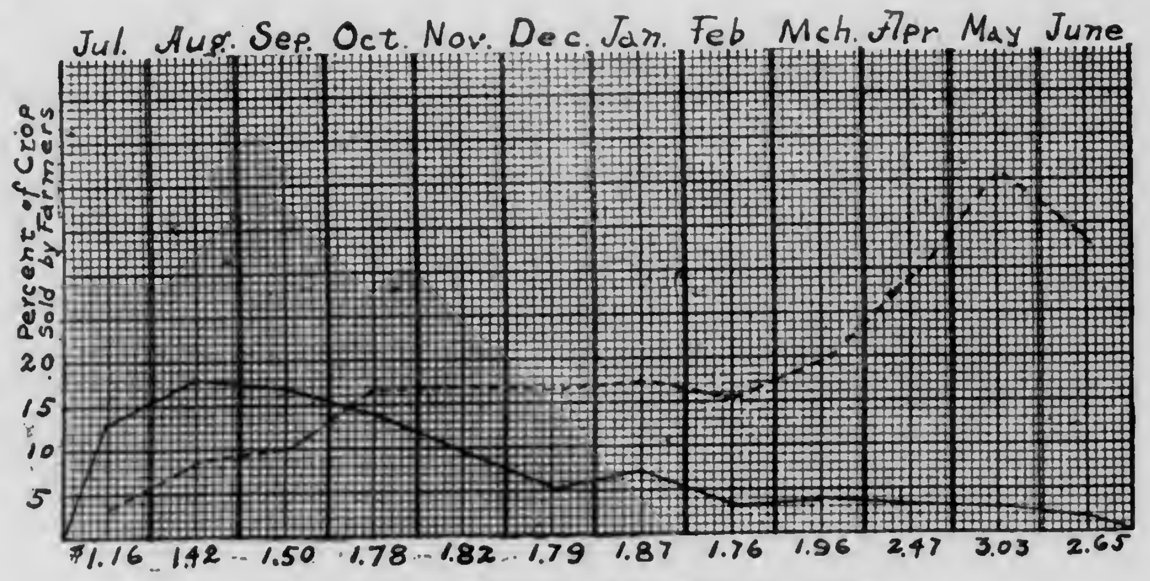
The accompanying chart shows by the curved lines the percentage of the wheat crop sold by farmers each month and the market price each month. It will be noticed that 50 percent of the crop was sold before the price exceeded $1.50 per bushel, or during July, August and September. After that the price gradually arose until it reached $3.03 in May. At that time farmers had but three and one-third percent of the crop. It is also interesting to realize that people are paying for their bread a price based upon the latter quotation of wheat.

HOG PROFITS

At Professor Carmichael's hog festival at the University of Illinois last week, H. C. M. Case of that institution presented some interesting figures on the hog business of thirty representative Illinois farms. These thirty farms produced in one year an average of 22,600 pounds of pork, and the gross income per farm from hogs was $2,422. The average cost of production was $7.05 per cwt., the average selling price $10.69, and the average profit $3.64 per cwt., or $8.25 per farm. Corn fed to these hogs averaged $1.33 per bushel, 14.9 lbs. of pork being made from each bushel of corn fed. Of the thirty, the seven farms that made most profit on hogs produced pork at an average of $5.20 per cwt., while the seven farms that made least profits produced pork at an average cost of $9.38 per cwt.; the former used some alfalfa, clover or rape in feeding hogs, and sold early in the fall, while the latter kept their hogs over the first of the year, which partly explains the increased cost of production. Here are some figures for all the hog producers to ponder over. How many farmers can ask themselves how much their hogs cost—and answer the question? The more figures of this sort we can get on farming operations the more we shall be able to know about the business of farming.—Farmers' Review.

NEW YORK CROPS

Following are some wheat yields in counties bordering on Lake Ontario where land is perhaps well adapted to wheat. Harksuss Brothers' crop, 47 bushels per acre; F. A. Dunton had 204 bushels from four acres; Peter Voorhes and L. Francisco, 40 bushels per acre; E. J. Hurley, 1,000 bushels from 30 acres and L. C. Williams, 800 bushels from 26 acres—all this following a very poor spring outlook. In our locality, the weld farm produced 480 bushels from 18 acres. Yesterday, I was offered $2.15 per bushel at Naples, but the going price is about $2.



TRADE IN LAST YEAR'S WHEAT CROP.

Solid line, percentage sold each month. Dotted line indicates market price.

Corn, which also promised very poor as late as July 4, is now likely to produce above normal, both in grain and fodder. It is well cared and has about one month to mature.

The potato yield will be above normal if blight and rot do not set in severely. The former has already appeared in a few places, and present weather seems to favor its development.

Oats are phenomenal in apparent yield, which is gratifying, because of the quantity, quality and price of the 1916 crop. Some are being badly crinkled by recent continued rains, while others are in capped shocks and will damage very little.

Farmers who do not usually sow wheat will do so this year, altho with expensive seed. Sod land will be plowed for wheat in a few cases which is uncommon; barley stubble being considered superior to any other.—C. M. Drake, Ontario Co., N. Y.

DECREASE OF STOCK IN FRANCE

The Food Administration has received directly from the French government figures showing the decrease of live stock in France as a result of the war.

On December 31, 1916, according to the official French figures, the cattle had decreased to a total of 12,341,900 as compared with 14,807,000 in 1913, or 16.6 percent; sheep decreased from 16,213,000 in 1913 to 10,845,000 December 31 last, or 33 percent; swine decreased from 7,048,000 in 1913 to 4,351,900 at the close of last year, or 38 percent.

The per capita consumption per annum of meat in France at the present time is estimated by the French government at 69.61 pounds of beef, 11.16 pounds of mutton, and 21.48 pounds of pork.

The French figures emphasize the recent statement of the U. S. Food Administration that the nations of Europe are now rapidly depleting their supply of live stock, and must therefore depend largely upon the United States for their meat and dairy products after the war.

BONDED WAREHOUSES

Not many farmers are so situated that they can store any considerable amount of produce on their own places. Being forced to sell at low prices because of inability to store grain or other produce is a frequent occurrence with them. Lack of storage facilities even prevents growers in some sections from having a market at all for their produce. In such cases bonded warehouses not only serve to save food, but also enable the farmers to realize a profit on products which otherwise would mean a dead loss.

The value of the bonded warehouse is shown in the experience of farmers around Gainesville, Florida, where, in 1915, the first bonded warehouse operating under the Federal Reserve system was established. Under the Federal Reserve system, warehouse receipts for various farm products stored in a bonded warehouse become collateral upon which the farmer may borrow from 50 to 75 percent of the market price at his bank. Usually the local bank holds these receipts, but if necessary they can be re-discounted at the nearest Federal Reserve Bank.

CROP ESTIMATES AND COMPARISONS

The Government's August estimate of crops for 1917 contains the following figures:

Winter wheat, 417,347,000 bushels; last year, 481,744,000; average yield per acre, estimated, 15.1 bushels.

Corn, 3,191,000,000 bushels; last year, 2,583,000,000 bushels.

Buckwheat, 19,900,000; last year, 1,252,000,000 bushels.

Potatoes, 467,000,000 bushels; last year, 285,000,000 bushels.

Oats, 1,456,000,000 bushels; last year, 1,252,000,000 bushels.

It is estimated that the cabbage crop will be about the same as 1914. The crops of 1915 and 1916 were both abnormal; the former being away above the average and the latter about one-third of a normal crop.

Editors' Note.—It should be borne in mind that these are but estimates based upon the outlook as it was at time of observation, August 1, and that these figures may be finally increased or diminished, depending upon weather and other conditions.

FRUIT AND VEGETABLE SHIPMENTS AND PRICES

Shipments of cantaloupes from eastern United States are becoming lighter. The price received is about the same as last year.

Sweet potato shipments are more than double those of last week, and the price has fallen considerably, bringing 50 cents to $1 less.

The supply of peaches has greatly increased, and the prices in the East have fallen. On account of lighter crops in west, prices are well maintained, Elbertas selling in Cumberland, Md., at $1.90 to $2.25 per bushel basket. Pears in eastern cities are in heavy supply and prices have fallen.

Potato shipments for week ending September 4 were 460 cars less than a week ago. The demand for potatoes has been rather poor and prices have declined 10 to 15 cents per bushel and are jobbing about 20 cents per bushel less than a year ago.

Shipments of apples are increasing, but prices are fairly well maintained.

The New York onion crop is being harvested and the yield is much less than formerly estimated. Thrip, lack of potash and unfavorable weather conditions seriously reduced the crop. The average yield it is estimated will be about 300 bushels per acre. The Massachusetts crop was seriously damaged by hail, wet weather and hot sun, and the yield will probably be less than a year ago.

Concerning the New York cabbage crop, the Crop Specialist has this to say:

"Altho the condition in some localities is not as good as at the end of July, it is very promising in most of the heaviest producing sections both of domestic and late cabbage. The domestic cabbage has already passed the period where it is liable to serious damage from drouth or insect pests and the late cabbage set out before July 15th is rapidly approaching that stage. For the state as a whole the general average has not changed materially from that at the end of July and remains at about 80 percent with an anticipated yield of 10 tons per acre."

WEEKLY AVERAGE PRICES

Weekly average prices per 100 pounds of good beef cattle, hogs and sheep at Chicago follow:

	Cattle	Hogs	Sheep
Last week	$12.60*	$18.20	$ 9.90
Previous week ...	*12.85	17.50	9.65
Week 1916	9.25	10.70	7.25
Week 1915	8.90	7.05	5.85
Week 1914	9.20	9.00	5.30
Week 1913	8.40	8.20	4.40
Week 1912	8.05	8.48	3.90
Week 1911	7.00	7.23	3.55

*Highest on record.

Among the Granges

Tioga County, Pa.—A union picnic of the granges of Tioga County, Pa., was held at the large hall of the Middle Ridge Grange No. 384, on August 2. A large number of patrons and their families were present and thoroly enjoyed the occasion. Tables were set in the dining hall and the sisters outdid themselves. Food conservation was not the order of the day. Each one present contributed something for the table. The Stony Fork Band was present and entranced the day with enjoyable music.

Worthy State Master John A. McSparran spoke on the necessity of food production. All can not enlist to fight but all can increase production. He made an appeal in the interest of the Y. M. C. A., which is doing so much to make life pleasant for the boys who have gone to the front and are in the training camps. Also for the Red Cross and their excellent work.

Very fortunate were the patrons who were assembled to hear Worthy State Master John C. Ketchams, of Michigan State Grange, who is one of the brightest men connected with the National Grange. His topic "The Grange as a Community Centre" held his hearers deeply interested and was conceded by them to be one of the best speeches delivered in this community.

After the meeting Worthy Master McSparran instructed the Fourth Degree members in the reading of the code.

The ball game between Delmar and Charleston clubs resulted in a victory for the latter. Score 4-3.—J. K. C.

WANT CHEAPER FERTILIZERS

The following resolution was adopted recently by Haddon Grange No. 38, held at Haddonfield, N. J.

Whereas, The United States Government seems very much concerned about the food supply of the world in the near future, and

Whereas, The farmers are anxious to co-operate in a large production of farm products thereby helping to feed the world, and also that they may reap a reasonable profit for themselves, and

Whereas, The use of a liberal amount of commercial fertilizer is absolutely necessary for the production of satisfactory crops, at least in the east, and

Whereas, The price of fertilizers and fertilizer materials promises to be unreasonably high, if not absolutely prohibitive for Spring of 1918,

Therefore Be It Resolved, That it is the sense of this Grange, Haddon Grange No. 38, of 300 members, composed of the progressive farmers of the community, that we petition the United States Government to import nitrate of soda and sell it to the farmers and fertilizer trade at a reasonable price, thereby cheapening all forms of ammoniates, and hence all fertilizers, so that the farmers of the country will plant a maximum acreage and produce a maximum crop the country over for the season of 1918.

These resolutions were also adopted by Moorestown Grange No. 8, having 450 members; and by Mickleton Grange, having 257 members.

PLOWS AND PLOWING

Some Lessons for Tractor Plow Manufacturers

The 29th annual Maryland State Grange Fair was held at Taneytown, Md., during week beginning August 12. The attendance was unusually good, perhaps the largest in its history. Perhaps the most interesting agricultural exhibition was a plowing demonstration by two members of the Taneytown Grange No. 184, Frank A. Waybright and Geo. H. Winemuller. The public was told that this was an opportunity to witness power farming by practical farmers, not by experts from the factory. There is much wisdom in the latter part of this sentence. During the month of July we had about three weeks of almost daily rains. This put the soil in good condition for plowing and it was followed by a large influx of traction plow salesmen. At that time those plows worked well. Almost any plow would, and several sales were made. Since then the ground has become dry and the limestone clay of York County plows hard. It always does during the last weeks of August, and the tractor plowmen have disappeared. They ought to be here now and gather the experience expressed in the language of the men accustomed to our soils.

You can not plow Pennsylvania Dutch soil in August with Yankee plows. The plow makers of the United States have made plows for fifty years and have not yet learned this. All of their plows are equipped with cast shares and points which run down almost vertically in the soil. The men who have bought and used them say that in one-half day's plowing they are worn out so much that they will not penetrate the dry soil any more. A neighbor who plowed twelve acres says that it cost $7.50 for shares and four gallons per acre for oil.

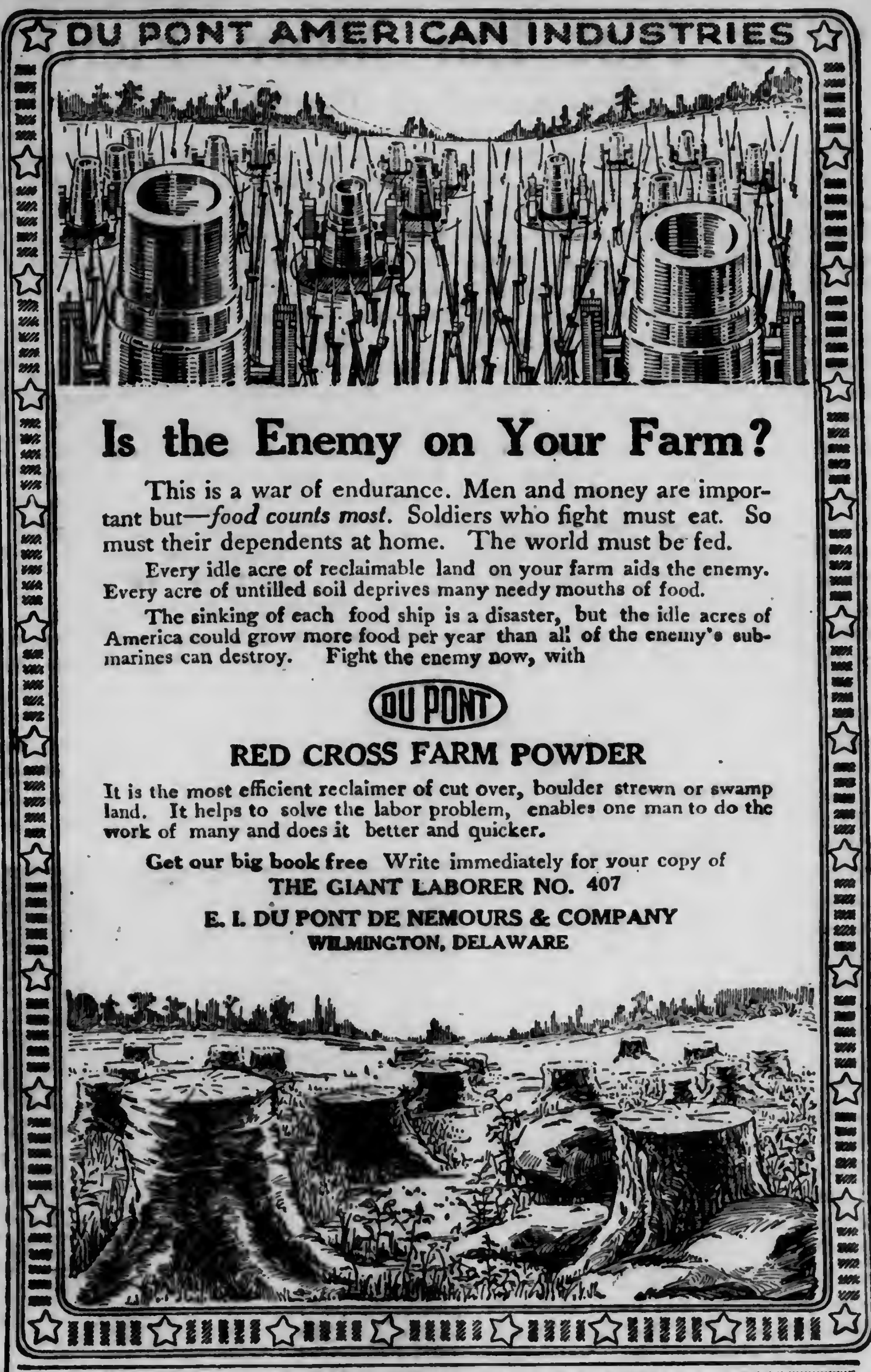
Another neighbor, who has bought a plow, was plowing in a fifty-acre field. I followed his plow around the field and found places that it did not run more than three inches deep. He reports a consumption of 33 gallons of oil per day. One plow started in a field with three plows attached. The operator soon took off one and tried to plow with two, and finally gave it up altogether.

Our home-made plows, which are made by men who are thought not to be wise enough to start plow factories, are all made with a wrought iron share with a nose to it that runs out horizontally from the plow for four or six inches in length. This keeps the plow down. It does not scrape over, "Yankee fashion", but runs thru the soil. As soon as the plow fails to run, the plowman hammers the nose down and then it will run twice as long as a new cast share. When it gets too dull to run he takes it to a blacksmith who heats it and hammers out the edge of the wing, or often lays a piece of spring steel on it, welds on a new nose and the share is thus good again for as much service as three cast shares.

Here is where the great improvement in traction plows is to be made if they are ever to become popular in the limestone soils of York County. The need of practical knowledge in the manufacture of all our implements is annually felt more and more. I have owned and worn out three binders in my time and of the three the first one did the best work and the most of it; and yet the later ones were all "improved".—D. P. Forney, York Co., Pa.

MILK DISTRIBUTION COSTS

An investigation of milk distribution costs in Philadelphia are under way. The investigation is being conducted by the Tri-State Milk Commission under the direction of Dr. Clyde L. King. The facts thus developed should complete the information on the whole cost of producing and serving milk to the city consumers. They will supplement the facts on production brought out in the investigation last year.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FARMERS' BULLETIN, 91
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Why Not Eat More Fish?

Save on Meat and Gain Variety in Diet

Those of us who live near enough to fresh fish supplies should consider it our duty as well as privilege to help conserve the beef, mutton and pork supply by using just as much fish as we can each week. Fish makes just as good source of tissue-building food as beef or any of the other meats. Bluefish, flounder, cod, butter-fish, herring, mackerel, smelts, porgy, some good kinds of perch, bass and pickerel, and in hill country trout are all available to us in different parts of this section. The digestibility of fish and other meats is about equal, the fatter fish, the same as fat meats, being more difficult to digest. The once popular idea that fish is a good brain food because of larger amount of phosphorus than any other meat, has long since been proved with foundation. Porgies are a summer and fall fish, smelts are abundant in winter, and deep sea fish, like cod and halibut, can be had nearly the year around.

Fish spoils sooner than other meat flesh because the connective tissues are softer. Gamey fish, like bass and pickerel, are harder fleshed, while lazy fish, like weakfish, that dawdle in shallow waters, are generally soft and watery-fleshed fish. In selecting fish, see that the flesh feels firm, and that the eyes are still bright and full or quite prominent. If you desire to keep fish a few hours during rather warm weather when you have no ice, clean it, sprinkle with pepper and salt, wrap in a wet cloth and set in as much of a breeze as you can find. This will keep it cool by evaporation.

To Get Rid of Fish Odor on Hands, etc.—Wash the fish, the knife, the pan and your hands in cold water and salt; cold water is better than hot for this preliminary cleaning; then hot water and naptha soap are good to finish the job.—The Editor.

Boiled Fish with Egg Sauce

Thoroly clean your fish, dredge with flour and wrap in a cloth as shown in the photo, and put in steamer, or boiling water. I use double cheesecloth for wrapping the fish, fastening the ends pretty tight with large safety-pins. I prefer the safety-pins to tying the ends, for getting knots out of wet cheesecloth is a little troublesome. Besides it is easier to loosen one end to test if done. To get the fish onto the platter when done, I lay it cloth and all on the platter, and gently pull the cloth from under the fish. (Editor's Note.—To help keep fish from boiling to pieces add 1 teaspoon salt and 2 teaspoons vinegar per each quart of water in which the fish is boiled. The vinegar and salt in the boiling water slightly harden the fish flesh, and rather improve the flavor. You may think that the vinegar gives a white-fleshed fish a slight creamy shade, but this is not objectionable. The water should not boil very furiously; a slow easy boil, or better just simmering, gets the best results. A wire basket instead of the cloth may be used to hold and handle the fish, if preferred.) When done take from the kettle, drain, place on hot platter, garnish with lemon and sprigs of parsley, and serve with the following sauce:

Egg Sauce for Fish

Cook together 1 tablespoon each of butter and flour. Add 1 cup water in which the fish was boiled; simmer 5 minutes. Season to taste with salt and pepper. Serve in a sauce boat in which have been placed several slices of hard boiled egg.

Another Egg Sauce.

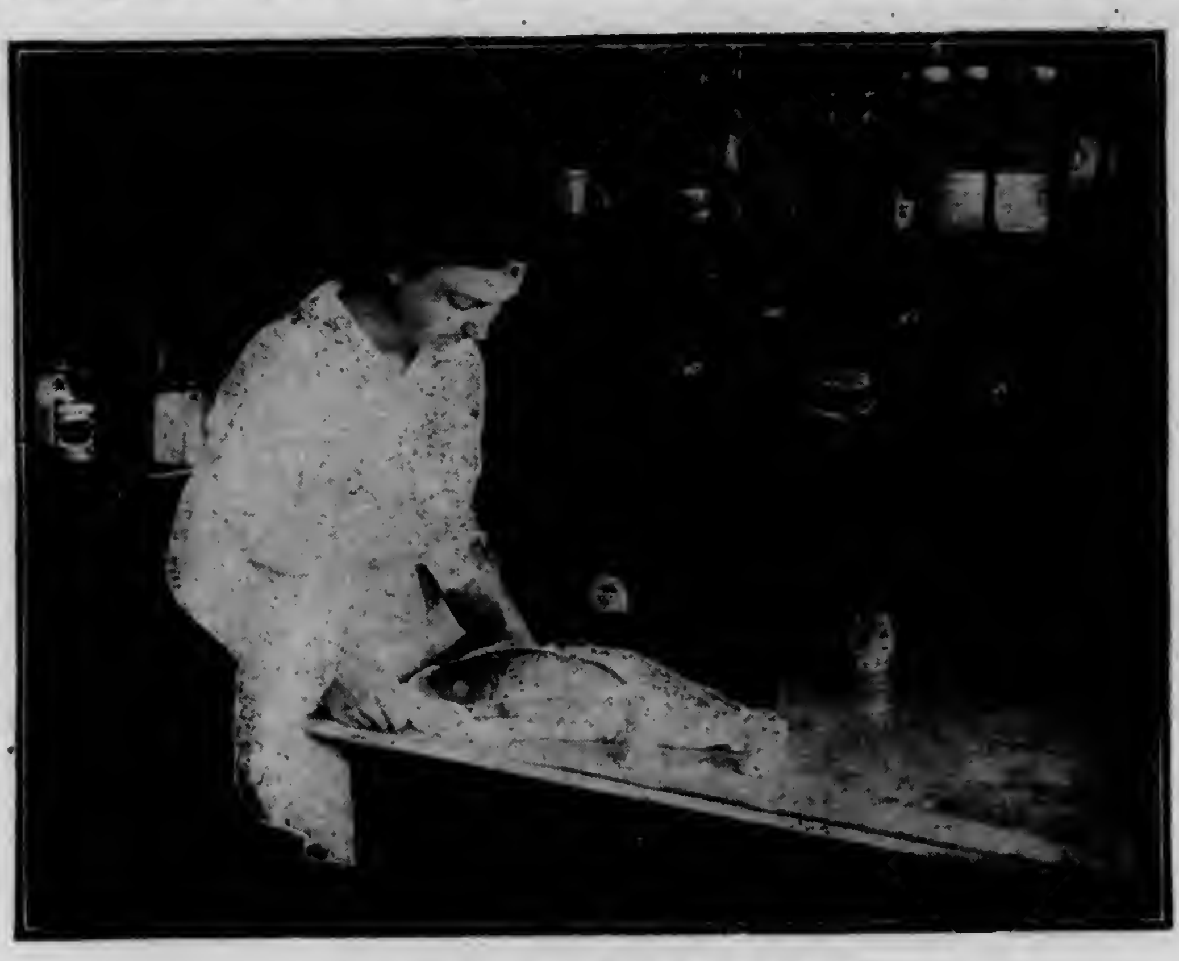
Cream 1 cup butter, add 4 egg yolks, one at a time, and cook over boiling water until smooth; add 1 tablespoon lemon juice and salt, paprika and nutmeg to taste. Cook until thick, add 1 cup boiling water and stir until creamy, then add 1 cup minced cucumber and 1 tablespoon vinegar.

Baked Slice of Salmon

Have 2 slices of salmon, about ¾ lb. each. Rub both sides with the following: 2 tablespoons oil, 1 tablespoon mixed pickle, 1 anchovy chopped and rubbed smooth, 1 teaspoon chopped parsley and ½ teaspoon chili sauce. Wrap salmon in buttered paper, and bake ½ hour. Serve in the paper.

Fish Balls

For ½ pint raw fish allow 1 heaping pint small potatoes, 2 eggs, butter size of an egg and pepper. Cut the fish into ½-inch slices across the grain. Put potatoes in the boiler and fish on top of them; cover with boiling water and cook until tender. Drain off all the water and mash together until smooth and light, adding then the eggs, butter and pepper. Have eggs well beaten before adding. Have a deep kettle of boiling fat, dip a tablespoon into the fat, then take up a spoonful of the potato-fish mixture, keeping it in as good shape as possible, and drop into the fat; cook until brown. Dip the spoon into the fat each time you take a spoon of the mixture.



WRAPPING A FISH FOR BOILING.

Sardine Rarebit

Melt 1 tablespoon butter with ½ lb. fresh cheese cut into small pieces. Add slightly beaten yolks of 2 eggs diluted with ⅔ cup thin cream. Stir until smooth. Season with ½ teaspoon paprika, ¼ teaspoon salt, ¼ teaspoon tobasco (red pepper) sauce, and ½ teaspoon Worcestershire sauce or catsup. Drain from their oil 1 box sardines, wipe carefully and lay on strips of bread toasted on one side, putting the sardines on the untoasted side; then pour the rarebit over them.—Mrs. Minnie McCabe, Baltimore Co., Md.

Baked Fish

Clean the fish, and if preferred remove head and tail (personally we are not fond of contemplating the head and tail in connection with eating fish). Remove the backbone or not, as time and desire indicate. Rub inside and out with salt and pepper. Fill nearly full with the stuffing given in next paragraph (you should allow enough room for the stuffing to swell), sew the edges together so that the stitches will not pull out, dredge on some flour, and if the fish is lean, lay some strips of fat side pork or bacon on top. Put in a baking pan containing just enough water to make a little steam at first part of the baking and to furnish a basting liquid. Bake 40 to 60 minutes, basting occasionally with the liquid. When done, remove the sewing and pork. Dress with any of the fish sauces given in this issue.

Stuffing for Baked Fish

Ingredients.—One cup bread crumbs, 1 cup melted butter, ¼ teaspoon salt, 1 teaspoon chopped mixed pickle, a few drops of onion juice or 1 teaspoon chopped onion, 1 teaspoon chopped parsley, ⅛ teaspoon pepper. This makes a dry dressing. If a moist dressing is desired add a little water or meat stock; water in which vegetables were boiled would be good.

To Bone a Fish

Cut the flesh down the back, and with thumb and finger carefully push the flesh off the ribs or side bones radiating from the mid-bone of the spine. It is a rather slow job in which only practice can give dexterity. When you get the flesh nearly pushed off the ribs on each side, grasp the spine and usually the tips of the bones will slip out of the flesh without tearing the flesh very much, or without the bones coming loose from the mid-rib. Then the fish can be stuffed so that in serving one can readily slice across it.

Hollandaise Sauce for Fish

Cook together until well mixed 3 level tablespoons each of flour and butter, heating until the butter melts, but do not let get brown. Pour in 2 cups milk and 1 teaspoon salt and a dash of pepper, and cook until it thickens a little, then stir in 2 well-beaten eggs and cook until well thickened. Just before serving add 1 tablespoon lemon juice or vinegar.

Drawn-Butter Sauce

Ingredients.—One-half cup butter, 3 tablespoons flour, 1½ cups boiling water, salt and pepper to season right. Melt half the butter, add the flour and seasoning, and pour on the boiling water gradually. Cook thoroly, then add the rest of the butter cut into small pieces so that it will melt readily. To serve this sauce with fish, add 1½ tablespoons lemon juice or vinegar.

Maitre-de-hotel Sauce

Ingredients.—One-quarter cup butter, ½ teaspoon salt, ¼ teaspoon pepper, 1 tablespoon chopped parsley, 1 tablespoon lemon juice. Mix the butter until of creamy texture, add the salt, pepper and chopped parsley and slowly the lemon juice.

Tartar Sauce

Ingredients.—One tablespoon vinegar, 1 teaspoon lemon juice, ⅓ cup butter, ¼ teaspoon salt, 1 tablespoon Worcestershire sauce. Mix the vinegar, lemon juice, salt and sauce together, and heat in a cup or little pan set in boiling water, or a cup that fits into your teakettle. Then brown the butter, and strain into the mixture in the cup, and remove from heat.

Caper Sauce

For this recipe see the article "Concerning Capers" in this issue.—The Editor.

CONCERNING CAPERS

When cold mutton comes to table, the accompanying capers give it a characteristic relish. With hot boiled mutton, they enter the sauce as a matter of course. They accompany joints of all kinds excellently, and are very fine appetizers with fish. These little pickled pea-like bodies lend themselves handily for appetizing aids in sauces and garnishes.

Why are they called capers? Some one said, "Because it takes very few of them to make a sauce tasty, and to find them the spoon has to caper about to capture any." But this is not the reason. The name caper has nothing to do with movement. It means a little head, or cap, from the Latin word, caput. Capers are tiny flower-buds not yet opened, just as cloves are the flower-buds of another plant. The caper plant, Capparis Spinosa, is a trailing bush. Those buds allowed to stay on the bush to open into flowers expand into rather handsome four-petaled, pinkish-white blossoms.

The gatherers of Sicily, Italy, France, watching the bud-growth, know when the stimulating property begins to be developed, then the smallest size, tenderest and best, known as "nonpareils", is ready for harvesting. These are tender and very fine. When pickled in salt and vinegar, they are ready for market. Later on, when the remaining buds have grown somewhat larger, the next size is picked, and these are known as "superfines". They, also, are young, tender and very good, their later acridity (bitterness) being quite undeveloped, but the stimulating bite is a little more pronounced than in nonpareils. The third degree is sold as "fine". It is somewhat bitter, requiring a longer salt-bath to take off the harshness. Two degrees remain yet, the capuchin and caput. The buds are very large in the capuchin brand, while in caputs they are almost at opening point, with the folded flower within ready to expand itself. These have a larger measure of acridity or "bite" than the dearer types, which "bite" many prefer. Capers owe their sting to properties similar to those in cress and nasturtium seeds. The latter are equal to capers for relishes in pickles and sauces in every respect, and many people prefer them.

When cooks understand the meaning of the five different brands of capers they will know the reason for the difference in price between nonpareils and capots. Usually the brand most sold is the central one, "fine", which generally satisfies all requirements.

Caper Sauce for Meat

Chop 3 tablespoons capers twice, and add them, with 1 tablespoon of liquor, to ½ pint of butter sauce, made as follows: Melt 4 tablespoons butter in a saucepan, add 1 tablespoon flour, then ¼ pint boiling water very gradually, with a seasoning of salt; stir it constantly until thoroly blended and without lumps. Let it thoroly boil. Just before serving, add the capers and a little cream or 2 tablespoons of butter cut in pieces, but do not again allow it to boil. Lemon juice is a great improvement; add it to suit taste.

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Caper Sauce for Fish

Cut 3 tablespoons of capers across once or twice, but do not chop them fine; put them in a saucepan with ½ pint of butter sauce made as just described, add 1 tablespoon of the caper liquor, ¼ teaspoon salt, a pinch of pepper, and 1 tablespoon of anchovy extract if you have any. Keep stirring until it just simmers, when it is ready to serve.—Marion Harris Neil.

ABOUT GOOSE-FISH

Summering on the Massachusetts coast, near a fishing town, a housewife, alert on all subjects pertaining to food, was interested in seeing Italians collecting from the shore near fishing smacks large fish which the fishermen had rejected. Inquiry brought out the information that this was goosefish, thrown away in large quantities by the fishermen, but much used by Italians.

ONE OF THE FALL TURBANS.
Made of tan felt and black hatters' plush. The wings of felt and plush form the crown. A jet ornament is the only trimming.

A German woman present remarked that it looked to her like the "hot smoked" fish which used to be retailed in Germany in small boxes, bringing a good price because of its delicate flavor and high food quality. So when the interested housekeeper returned to Washington she visited the Fish Commission to secure more information regarding this fish. Mr. Hugh M. Smith, U. S. Commissioner of Fisheries, affirmed:

"Yes, that is a fine food, better than cod, yet ten million pounds of it are thrown away or back into the sea every year on the coast between Cape Cod and North Carolina, three-quarters of it along the Massachusetts coast". Now think of that—in thrifty New England! It is true that the Germans, particularly in Hamburg and other seaports along the shores of the North Sea, cook it in strips by hot smoking, and box it for retail trade. There it is called the sea devil (see teufel).

Perhaps it is because of the peculiar form of the fish, the excessive development of head, bones and fins, that it is scorned. The individuals average about 25 pounds in weight, and of this only eight or nine pounds can be eaten. Yet the muscular tissue of the trunk is very compact, whitish in color, fine grained, and free from bone. According to analyses made for the Bureau of Fisheries by the Bureau of Chemistry, of samples of goosefish, the fish as obtainable in market contains as much protein as beefsteak, pound for pound.

There are various ways in which this fish has been cooked by experts in the Department. Boiled slowly it is perfectly done in about 20 minutes and should then be served with cream, Hollandaise or caper sauce. Cut in filets an eighth of an inch thick, dipped in bread crumbs and egg, fried in deep fat, and served with tartare sauce it is delicious. Or it may be used in hash or souffle just as are codfish, flounders or halibut, excelling all these fish in flesh-building material, or protein.

Those who live along the coast should persuade their fishermen to bring this product in and butcher it rather than throw it back. In so doing they would not only get a good food cheaply, but they would prevent the destruction of other smaller fish, since the goosefish has a tremendous appetite and feeds upon choice fish food. Formerly in England and Scotland it was discarded, but now millions of pounds are sold in both those countries. Commissioner Smith said that in the markets of Cuxahaben in 1912 he saw fresh mackerel of medium size bring 2¼ cents, large haddock 6¼ cents and goosefish 8 cents a pound.—Mrs. J. W. Douglas.

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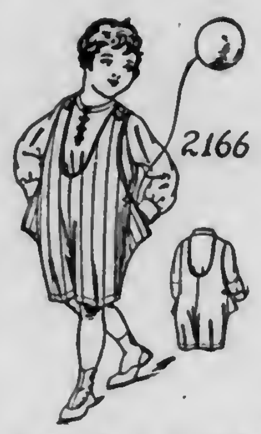
2166.—Boys' "Overall" Suit.—May be made with long or short sleeves. Pattefn comes in 4 sizes: 2, 3, 4 and 5 years. It requires 1¼ yards for the blouse and 2⅛ yards for the overalls, of 27-inch material, for a 3-year size. Price, 10 cents.

2178.—Girls' Dress, with Sleeve in Either of Two Styles.—The dress is slashed in points and widened by shaped "godet" gores. These could be of contrasting material. The sleeve is finished in the same way, in short length. In wrist length, it has a band cuff. The pattern is in 4 sizes: 4, 6, 8 and 10 years. It requires 3⅜ yards of 36-inch material for an 8-year size. Price, 10 cents.



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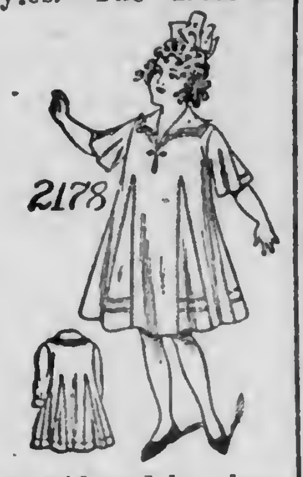
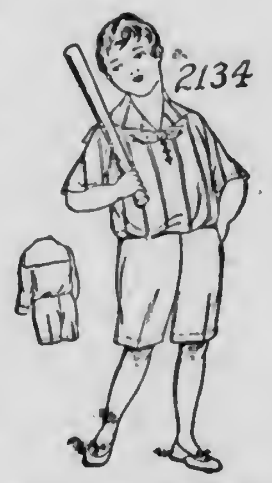


2178

2134.—Boys' Blouse and Trousers.—This model is ideal for warm weather, with low neck and short sleeves, and the trousers with straight lower edge. Pattern is in 4 sizes: 4, 6, 8 and 10 years. Size 8 will require 3 yards of 36-inch material. Price, 10 cents.



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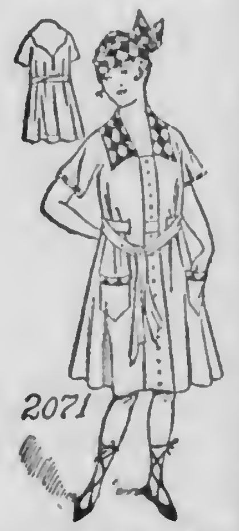

2071

2071.—Smart Bathing Dress.—This may be worn with tights or bloomers. Jersey cloth, brilliantine, serge and sateen are suitable for it. The fulness at the waist may be held by a belt or sash girdle. Pattern is in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 5¼ yards of 27-inch material. Price, 10 cents.

Make Your Bread Rich, Sweet,

full of flavor and food value. Buy the right flour, and you can economize on other more expensive foods. Your family will be just as well-nourished and just as well-pleased, for there's no food more satisfying than good bread, made of

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Shane Bros & Wilson Co
Phila, Pa Minneapolis, Minn

"I'm On the Back of Every Sack"

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Sept. 10, 1917.

Potatoes of good quality are in fair demand with prices about steady. The supply is quite readily placed. Fancy onions sold fairly and ruled firm. There is a moderate movement of other seasonable vegetables and values hold firm generally.

White potatoes, Eastern Shore, No. 1, $3@3.75 per bbl; No. 2, $1.50@2.25. From Delaware and Maryland, No. 1 $3@3.75 bbl. White potatoes, Jersey, per ⅝-bushel basket, No. 1, 75@80c; No. 2, 40@50c. White potatoes, per bushel, $1@1.10. Sweet potatoes, North Carolina, per bbl., $3.50@4.25; No. 2, $1.50@2.25. Sweet potatoes, Eastern Shore, per bbl., No. 1, $4@4.50; No. 2, $1.50@2. Sweet potatoes, Jersey, per ⅝-bushel basket, No. 1, $1@1.25; No. 2, 50@60c. Celery, New York, per bch., 15@50c. Lettuce, New York, per box, 50c @$1. Onions, Jersey, per ⅝-bushel basket, 90c@$1. Eastern Shore, per hamper, 40c@$1. Onions, Orange County, New York, per hamper, $1@1.50. Onions, Orange County, New York, per 100-lb. bag, $2.25@2.75. Onions, California, per 100-lb. bag, $3; do., Washington, per 100-lb. bag, $2.75.

Beans and Peas.—The market was quiet with moderate but ample offerings at revised figures. Beans, per bu. 60 lbs. Marrows, H. P., 1916, choice, $8.50; mediums, H. P., 1916, choice, $7.90@8; pea beans, H. P., 1916, choice, $8; Red Kidney, H. P., 1916, choice, $7.25. Lima, California choice, per 100 lbs., $12.75. Green peas, $6@6.15.

Green Fruits.—Apples of fine quality sold fairly and ruled firm, but there was some unattractive stock offering which was quiet. Cantaloupes of fine quality were well cleaned up and a shade firmer. There was a moderate movement in other fruits and values generally were well sustained.

Apples, Virginia, per bbl., Grime's Golden $4@5.50; Northwest Greening, $4@5.50; Gravenstein, $2.50@5; Summer Rambo, $2.50@5; Blush, $2.50@5; Wealthy, $2@5. Apples, nearby, per hamper, 50c@$1.50; do., per ⅝-bushel basket, 25c@$1. Grapes, Delaware, per 8-basket carrier, 50c@$1; do. per 3-lb basket, 9@13c; do., California Tokay, per 4-basket carrier, $1@2. Cantaloupes, California Turlock, per standard crate, $2.75 @3. Peaches, Delaware, Maryland, Virginia and West Virginia, per crate, 50c@$1. Peaches, Delaware and Maryland, Belle and Elberta, per 16-quart basket, 25@75c. Peaches, Virginia and West Virginia, per bushel basket, 60c@$1. Pears, Delaware and Maryland per hamper, Bartlett, $1.50 @2.25; Seckel, $1.50@2.25. Pears, California, Bartlett, per box, $2@3. Watermelons, per car, $40@125.

Live Poultry.—The fowl market ruled firm, with demand absorbing the limited offerings of desirable stock. Demand for spring chickens was only moderate, but values were firmly maintained. Ducks ruled firm.

Fowls, as to size and quality, 25@27c; some fancy stock higher; roosters, 18@19c; spring chickens, not Leghorns, plump, yellow skinned, weighing 1½@2 lbs. apiece, 29@30c; smaller sizes, 26@28c; White Leghorns, 25@28c; ducks, Pekin, 20@21c; do., Indian Runner, 18@19c; do., spring, 20@21c; pigeons, old, per pair, 25@26c; do., young, per pair, 20@22c.

Dressed Poultry.—Offerings of fowls were very light, and the market ruled firm under a fair demand. Broiling chickens of desirable size and quality were firmly held. Ducks were in small supply and firm. Fine large squabs sold fairly and values were well sustained.

Fresh-killed, milk-fed, dry-picked fowls, 12 to box, fancy selected, 29c; do., weighing 4½ lbs. apiece, 28½c; do., weighing 4 lbs. apiece, 28c; do., weighing 3½ lbs. apiece, 27c; do., weighing 3 lbs. apiece, 25@26c; fowls in bbls., fancy, dry-picked, weighing 4½ lbs. and over apiece, 28c; do., weighing 4 lbs. apiece, 27@27½c; do. small sizes, 21 @25c; old roosters, dry-picked, 21c; broilers, weighing 1½@2 lbs. apiece, Jersey, fancy, 33@36c; Virginia, fancy, 30@32c; other nearby, 26@28c per lb; western, 25 @27c; turkeys, fresh-killed, per lb., western, spring ducks, 22@23c; squabs, white, weighing 11@12 lbs. per doz., $4.60@5.40; do., 9@11 lbs. per dozen, $4@4.50; do., 8 lbs per dozen, $3@3.50; do., 7 lbs. per dozen, $2.50@2.90; do., 6@6½ lbs. per dozen., $2@2.25; dark, $1.75@2.25; small and No. 2, 60c@$1.40.

Eggs.—Fine new-laid eggs ruled firm, with demand absorbing the limited offerings. Medium qualities were quiet, but cheap eggs showing good quality for the price were well cleaned up at inside figures.

Nearby firsts, $12.60 per case; do., current receipts, $12.30 per case; do., seconds, $10.95@11.25 per case; western, extra firsts $12.60 per case; do., firsts, $12.30 per case; do., seconds, $10.95@11.25 per case; selected, carefully candled eggs were jobbing at 50@54c per dozen.

YORK PRODUCE MARKET

York, Pa., Sept. 10, 1917.

There were well-crowded market houses during the past week, especially so on Saturday. Prices are stiffening somewhat in all lines of produce. The hight of the season is past and there is a narrowing down in all lines of truck. Corn is unusually scarce. Tomatoes were not so light a crop for ten years. Apples will be a light crop thruout York County, except in the sprayed and well-cared for orchards. Butter and eggs are in light supply as well as demand, yet the price on both is advancing. Pork has reached a place never before seen by our oldest residents. On Saturday feeders were quoted and held at $25 per cwt., live weight.

Eggs.—40@44c dozen.

Butter.—Country, 40@45c lb; separator, 45c lb. Milk, 10c quart.

Poultry.—Hens, 21@22c lb; springers, 20 @24c lb; dressed, 65c@$1.50 each.

Vegetables.—Potatoes, 12@18c ½ pk; $1.15@1.25 per bu. Cabbage, 3@8c head. Lettuce, 5c a head. Beets, 5c bch. Radishes, 5@6c bch. Onions, 6@10c bx; 20@25c ½ pk. Lima beans, 20c qt. Soup beans, 35c qt. Celery, 5@8c a stalk. Tomatoes, 10c bx; 15@30c ½ pk. Turnips, 10@15c ½ pk. Corn, 20@25c per dozen. Eggplants, 3@8c each.

Apples.—Best, 10c box; 20@25c ½ pk; common, 8@12c ½ pk. Plums, 3@10c box. Peaches, 5@10c box; 45c@$1 per basket. Pears, 8@10c box; 25c ½ pk. Cantaloupes, 3@10c each. Watermelons, 25@40c each.

Retail Grain Market.—Wheat, $2.15; corn, $1.90; oats, 90c; bran, $2 per cwt.; middlings, $3 per cwt.

Wholesale Grain Market.—Wheat, $1.90; corn, $1.60; oats, 60c; rye, $1.40; bran, $38 ton; middlings, $48 ton.

LANCASTER PRODUCE

Lancaster, Pa., Sept. 10, 1917.

High prices ruled again today. Eggs went as high as 50 cents a dozen, establishing a new record for the local market, and butter sold at 50 cents, also a record. A large supply of corn was sold at a prevailing price of 25 cents per dozen ears. Potatoes were held in some cases as high as $1.30 per bushel.

Butter and Eggs.—Creamery butter, 50c lb; country butter, 48c; eggs, 50c dozen.

Poultry. — Old chickens, dressed, $1@1.25; young chickens, dressed, 75c@$1; live chickens, $1.50@2 per pair; live chickens, old, 18c per lb.

Vegetables.—Corn, 15@25c dozen; new beans, 20c ½ pk; lima beans, 10c pt; squash, 4@5c each; celery, 5@10c bch; lettuce, 5@12c head; onions, 5c box; cauliflower, 15@20c head; eggplant, 5@10c each; pickles, 40@60c hundred; cabbage, 2@8c; sweet potatoes, 30c ½ pk; potatoes, $1.10 bu; do., 12@18c ½ pk; carrots, 5c bch; new turnips, 5@10c ½ pk; spinach, 5c ½ pk; parsnips, 5c bx; tomatoes, 12@15c ½ pk; do., 50@60c basket.

Fruits.—Peaches, 20c ½ pk; do., 60c@$1 basket; pears, 15c ½ pk; cantaloupes, 3@20c each; apples, 10@20c ½ pk.

Grain Market.—Dry wheat, $2 bu; damp wheat, $1.70@1.95 bu; oats, 65c; ear corn, $1.95; corn, $2.03; rye, $1.55; timothy hay, $18@19 ton; mixed hay, $16@18; wheat straw, $11@12.

NEW YORK PRODUCE

New York City, Sept. 10, 1917.

The butter market opens in pretty good shape. Prices steady. Cheese firm and advancing. Demand for eggs fair. Poultry, both live and dressed, is in good demand. Most fresh fruits and vegetables active. Good demand for potatoes at prices a shade higher.

Butter.—Creamery, extras (92 score), per pound, 44c; higher score, 44½@45c; thirds to firsts, 39@43c; state dairy, 37@43½c; ladles, 35½@38c.

Cheese. — Fresh colored specials, 24½ @25c; white, 24@24½c; undergrades, 12 @18½c.

Eggs. — Fresh gathered extras, 44@45c; extra firsts, 42@43c; nearby white, fine to fancy, 53@56c; ordinary to good, 42@52c; browns, 46@49c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 33@36c; old roosters, 20@21c; squabs, $1@4.50 per dozen. Spring ducks, per lb., 20@22c; turkeys, fresh killed, 22@24c.

Live Poultry.—Fowls, fancy, heavy, 27c lb; do., average run 26c; do., small or poor, 25; chickens, fancy, heavy, 29c; do., average run, heavy, 28@29c; do., average run, Leghorn, 28c; do., small or poor, 26@27c; old roosters, 18c.

Vegetables and Greens.—Beans, per bu. basket, 50c@$1.25. Beets, per bbl., $1.50@2.50. Onions, per 100-lb. bag, $1.75@3.50. Potatoes, Jersey, $2.25@3 per bbl. Carrots, $1.75@2.25 per bbl. Corn, per 100, 50c@$1.75; cucumbers, 50@75c basket; peppers, per bbl., $2@3.50; tomatoes, Jersey, 40c@$1 per box.

Apples.—Wealthy, $2.50@5.50 per bbl; Duchess, $2.50@5.25; Gravenstein, $3@6; Summer Pippin, $2.50@4; ordinary sorts, $2@2.75.

Peaches.—Delaware and Maryland, 75c@$1.50 carrier; Delaware and Maryland, 25@55c basket; Jersey, Elberta, $1.25@2 per carrier; do., Belle of Georgia, 75c@$1.75 per carrier; do., other kinds, 75c@$1.25 per carrier; do., 50c@$1 bushel basket; do., 25 @60c per basket; Pennsylvania, 60@$1.25 per carrier; do., 50c@$1.12 per bushel basket; State, 25@60c per basket.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., Sept. 10,1917.

The receipts of cattle for today's market were 203 cars, as compared with 175 cars last Monday and 172 cars the corresponding Monday, last year. However, 70 cars more were scheduled for today's market but were delayed in transit. Of the 203 cars on sale, 115 came from Virginia; 70 from Chicago; 4 from Buffalo; 4 from New York State; 3 from Detroit; 3 from Pennsylvania; 1 from St. Paul; 1 from Pittsburgh; 1 from Indianapolis and 1 from Maryland.

The market today had some "pep" in it, and in practically all kinds on sale. Butcher cattle were in much smaller supply than last Monday, even tho receipts numbered 30 cars more than a week ago. Salesmen were unanimously of the opinion that their sales of everything ranging from fair to good in the butcher cattle line were 15 to 20 cents higher.

The best cattle on sale were a load of Virginia steers that had quality, flesh and fat, weighing 1,152 lbs., and sold at $13. One car of pretty good West Virginia steers weighed 1,175 and sold at $12. One car of very good West Virginia "White Face" heifers weighed 990, and sold at $11.50. Another car of the same kind, but not quite as fine in quality, weighed 1,040, and sold at $11.25.

The best car of butcher steers on sale that came from Chicago weighed 1,090 and sold at $10.90. Another carload that came from the same place, that were a little coarse, but had some fat, weighed 1,120, and sold at $10.90. A grade of butcher steers called in the trade "Green Ones" weighing from 950 to 1050, sold at $10 to $10.50. Several lots of a plain kind of butcher cattle, weighing 900 lbs., sold at $9 to $9.40.

The supply of stockers and feeders was more than twice as large as on any previous Monday this year, but there were three times as many buyers on hand and the result was that the stuff moved and there was some animation to the movement. There was on sale also a better kind of feeders than on any previous Monday this year, and naturally quotations for feeders were the highest of the season thus far. The "top" of the feeder market was one bunch of 10 head of Durham yearlings, dehorned, that weighed 835 lbs. They were taken by Mr. George Hibshman of Lancaster Co., at $10.25 per cwt. Quite a few bunches of a good kind weighing 900 to 950 lbs., went to Chester County farmers, at $9.50 to $9.75, and one bunch of 10 head that weighed exactly 1,000 lbs. each went to a Lebanon County farmer at 10 cents per lb. Another bunch of 15 head that averaged 1,000 lbs., was taken by a Lancaster County feeder at $9.75. And another bunch of 20 head, averaging 947, went to Bucks County, at $9.75.

There was a good demand for a nice quality of 825 to 850 lbs. dehorned feeders, at $8.75 to 9. Several loads of a pretty handy kind of feeders, weighing 775 to 800, went to York County at $8.35 to $8.60. One bunch of 68 head that averaged 810 lbs. were taken by a Lancaster County feeder at $8.80. There was a lot of trading in a class of little steers, some horned and some dehorned, that were called by courtesy, fair, weighing 600 to 700 lbs., at $7.25 to $7.75. Some that were very plain sold at $6.75 to $7, and nothing that wore hair sold at less than $6.50.

There was a big supply of stock bulls on the market, particularly of the common kind. The good ones sold fully steady. One carload of very good quality feeding bulls weighed 1,100 lbs., and sold at $8.50. A number of small bunches of good dairy bulls, weighing 700 to 800 lbs., sold at $8 to $8.50. A pretty good kind of bulls sold at $7.50 to $7.75, and a common kind from $6.75 to $7.25.

Lancaster County farmers have not begun to "sit up and take notice" of the stocker and feeder market and with the exception of today, the bulk of the stockers and feeders have gone to counties in Eastern Pennsylvania, other than Lancaster County. With beef cattle ("dry fed" of course) weighing 1,200 to 1,500 lbs., selling in the Western markets at from 15 to 17½ cents per lb., it is absolutely useless to try to buy feeders on the basis of last year's prices.

PITTSBURGH LIVE STOCK

Pittsburgh, Pa., Sept. 10, 1917.

Cattle.—The supply on sale Monday was 140 loads compared with the same number last week. The market ruled active and higher on all best grades, while the medium and plain grades were only steady. The choice cattle on sale this week were much better than any that have been on sale here. Choice heifers in fair supply and sold higher, while the medium and light weights were slow. Cows in liberal supply, sold steady on all grades except choice heavy which sold higher. Bulls in liberal supply and sold slow on all but best. Choice fresh cows higher. Medium grades and springers slow. Today's supply was 150 loads. The market was active on choice fat cattle of good quality, which sold higher, but other kinds were slow at barely steady prices.

Good to choice	$13.00@14.25
Good, 1300-1400 lb.	12.25@12.90
Medium to good, 1200-1300 lb.	11.25@12.00
Tidy, 1050-1150 lb.	11.00@11.60
Fair to medium, 1000-1100 lb.	9.50@10.50
Fair, 900-1000 lb.	8.00@ 9.50
Common, 700-900 lb.	7.00@ 8.25
Rough, half-fat, 1000-1300 lb.	8.50@10.00
Common to good fat oxen	7.00@ 8.50
Common to good fat bulls	7.00@ 9.00
Common to good fat cows	6.25@ 9.00
Heifers, 700-1100 lb.	7.00@10.50
Bologna cows	5.25@ 6.00
Fresh cows and springers	$25@90

Calves. — Calves in fair supply. Market ruled steady all week. Today's receipts were 1,000 head. Choice sold active but others went slow at barely steady prices.

Veal calves	$11.00@16.00
Heavy and thin calves	5.00@ 9.00

Hogs.—The supply on sale this week has been fair but with only a light supply the market ruled slow and lower on all grades, closing 60c per cwt. below Monday's prices. Today's supply was 35 double-deck loads, and the market ruled 5 cents lower.

Prime heavies	$19.10@
Heavy mixed	19.10@
Prime medium weights	19.10@
Best heavy Yorkers	19.00@
Light Yorkers	18.00@
Good pigs	16.50@17.25
Common to good roughs	16.00@17.00
Stags	14.00@15.00

Sheep and Lambs.—The supply of sheep and lambs has been fair with a good demand; the market has ruled active and higher, sheep closing 50c per cwt. higher and lambs 25c per cwt. higher. Today's receipts were 25 double-deck loads. The demand was good and the market was active and higher on choice sheep and choice lambs, but other grades ruled only steady to strong.

Best wethers	$11.50@12.00
Good mixed	9.50@10.50
Fair mixed ewes and wethers	8.00@ 9.00
Culls and common	4.00@ 6.50
Culls to choice yearlings	9.00@10.00
Spring lambs	12.00@17.25

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Sept. 10, 1917.

Baled Hay and Straw.—Receipts, 216 tons of hay and no straw. There was little activity in the market as usual on the last day of the week, but offerings of desirable stock were light and values were firmly maintained.

Timothy hay, No. 1, large bales, $20.50 @21; No. 1, small bales, $20.50@21; No. 2, $18@19; No. 3, $15.50@16.50; sample, $10@11. Clover mixed hay, light mixed, $17.50@18.50.

Straw.—No. 1, straight rye, $13@13.50; No. 2 do., $12@12.50; No. 1 tangled rye, $12 12.50; No. 2 do., $11@11.50; No. 1 wheat straw, $11@11.50; No. 2 do., $10@10.50; No. 1 oat straw, $11@11.50; No. 2 do., $9.50 @10.

Bran.—The market ruled firm under light offerings and a fair demand, and prices of spring were slightly higher.

Soft winter bran, in 100-lb. sacks, per ton, $36; spring bran, in 100-lb. sacks, per ton, $34.

NEW YORK HAY AND GRAIN

New York City, Sept. 10, 1917.

Feed.—A slightly firmer tone prevailed in the market for mill feed and prices were well maintained. Offers of Western feed for prompt delivery were small and buyers were more in evidence and willing to make fair purchases. This gave city feed a firmer tone and resulted in a fair business. Quotations: Western spring in 100-pound sacks, 34; standard middling, $38.50; flour in 100-pound sacks, $49 to arrive; red dog to arrive, in 100-pound sacks, $60; city feed bulk bran, $34.00; 100-lb. sacks, $5; heavy feed, 100-pound sacks, $40; red dog, $63; flour, $62. Linseed oil meal, $51.50 per ton.

Hay.—Prime timothy, No. 1, $23@24; No. 2, $20@22; fancy, mixed, $21@21.50; clover mixed, $19@20; clover, $18@19.

Wheat.—No. 2, red, $2.27.

Corn.—No. 2 yellow, $2.82.

Oats.—No. 2, white, 71c; No. 3, 69@69½c.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Sept. 10, 1917.

Butter.—The market ruled firm under light offerings, but wholesale trade, as usual, on the last day of the week, was quiet. Fine solid-packed creamery brought the outside rate, while the under grades were well cleaned up at inside figures. Fancy prints were scarce and firm, but unattractive qualities were dull and somewhat irregular in value.

Western, fresh, solid-packed creamery, fancy specials, 46c; extra, 44@45c; extra firsts, 43½c; firsts, 43c; seconds, 42c; nearby prints, fancy, 48c; average extras, 46@47c; firsts, 44@45c; seconds, 42@43c; special fancy brands of prints were jobbing at 51@54c.

Cheese.—There was little trading, but offerings were light and prices were firmly held.

New York, full cream, fancy, June, 25½c; specials higher; do., fresh made, best, 24¾ @35c; do., choice, 24@24½c; do., fair to good, 23@23½c.

NEW YORK MILK MARKET

New York City, Sept. 10, 1917.

In view of the fact that the period for settling upon rates to be paid to the producers is approaching, it is worth while to state the situation as the distributors see it. For some time there has been an abnormal surplus. It is credited to two causes in chief. They are a reduction in demand for fluid milk occasioned by the higher retail price and the suggestions made by Mr. Hoover, the National Food Controller, that where possible substitutes for the products of milk be used, particularly in the case of butter, when cheaper forms of fat would serve. This surplus, for which the distributor has to pay the price established last spring, he finds it difficult to handle because of the unexpected change in the foreign situation. Great Britain has found it possible to buy cheese in Canada very much cheaper than in this country and is buying less here. Owing to the reduction in shipping space due to the activities of the submarines, the space available is being used for other products than condensed milk. At the present selling prices of the by-products of milk, it is stated here that the distributor loses about 80 cents a hundred pounds on the milk he is obliged to use in this way.

The dealers think the present rate to the producer should hold thru October in order to give Mr. Hoover an opportunity to complete his investigation of the cost of production. If there is to be a further increase in the rate to be paid to the producer, it will have to be added to the retail price, they say. A rise in retail price, they think will be detrimental to the milk business, because it will further reduce the demand, while the higher rate to the producer will tend to stimulate production. It is hoped that the regulation of food supply will serve to cut down the price of feeds. The dealers also feel that the time has come to ask the producer to share in the burden of handling the surplus. Otherwise, some companies, being required to pay high prices for a product they can use only at a loss, would be forced to go out of business. The situation has been put up to Mr. Hoover.

The League rates for September for Grade B (barn score 55) to the producer in the 26-cent zone are : $2.55 a hundred pounds for 3 percent milk; $2.75, or 5.86 cents a quart for 3.6 percent milk; and $2.90 for 4 percent milk.

The receipts of milk and cream in 40-quart cans for the week ending September 8, were as follows:

Railroad	Milk	Cream
Erie	42,044	1,460
Susquehanna	4,140	8
West Shore	11,990	1,375
Lackawanna	66,190	2,120
N. Y. Central (long haul) including Rutland	131,955	3,620
Ontario	37,320	3,150
Lehigh Valley	43,888	938
New Haven	2,415	21
Pensylvania	12,190	510
Other sources	6,950	235
Totals	359,082	13,437
Same week last year	374,837	16,154

ELGIN BUTTER MARKET

Elgin, Ill., Sept. 8, 1917.

Butter.—Bids at 42@42¾c; no offerings.

TOBACCO MARKET

So many growers are refusing to sell at any price that buyers have tired of riding and very few sales were made during the week. A few crops have been contracted, mainly at $20 per cwt. for wrappers, and correspondingly high for the lower grades. But this price does not interest the average grower who, of course, remembers the generally disastrous result of early sales last year, when early selling involved a loss of from $3 to $6 per cwt. It would seem that there is little probability of general selling before tobacco is housed and enough of the same stripped to establish the quality. General rains have renewed the life of the growing crop, many fields that were stunted and short now being green and thrifty. The one limiting feature may be frost and to so manage to escape this and yet defer cutting as long as possible will demand special skill on the part of growers. Unless cut short by the elements, the Pennsylvania crop will be large, possibly the largest ever grown. Estimates indicate a total product of 75,000 to 85,000 cases. The earlier plantings bid fair to make excellent quality, but later areas will in all probability suffer more or less in that respect. It has been noted that many new tobacco sheds are being erected which indicates the renewed interest in the business and the general belief that prices will be good for years to come. Farmers are learning that it pays to have something better than a mere shed and accordingly are building substantial and sightly structures for their tobacco.—H. E. Tweed, Sept. 10.

The Voice of the People

This department is reserved for use of our readers to discuss problems and matters of general farm interest. Write your views and comments briefly on any question of social, economic or educational importance and thus share them with others. Such articles should not exceed 200 or 300 words. Publication of such articles does not signify editorial endorsement or agreement.

SOME FIGURES ON FARM PROFITS

We were greatly interested in the editorial "The Commercial Press" in the August 25 issue of Pennsylvania Farmer. If farmers anywhere are making the profits credited to them by the commercial press, verily those of us so unfortunate as to live here in western New York are not getting our share; and we had not previously considered Chautauqua County as a particularly benighted region. We argue fully with a farm paper that stated lately that the word slacker is being altogether too freely used by the press. A man who is conscientiously doing what he believes to be his duty is not a slacker, and neither corporations nor individuals should be allowed to call him so. Farm help has for years been almost absolutely unprocurable and if the draft takes even a few from the farms it means that to just that extent the producing capacity of those farms will be curtailed. And in many cases the curtailment will amount to complete abandonment. In other words, we can not spare a man from the farms here without crippling the business.

A few figures may help to disillusion the public mind as to the abnormal profits of the farmer. Last winter, precisely at the time when the city housewives were boycotting 45-cent eggs, my account showed that, for that month, every egg produced by my poultry cost just 17 cents in actual cash outlay. No charge was made for labor or for vegetables, etc., which I raised in my own garden and which were consumed by the hens during that period. The deficit could hardly have been due to inexperience or inefficiency, because the neighboring producers, heretofore perfectly efficient and many of them with years of experience, suffered even greater loss than I. Indeed, one of them tells me her eggs cost between two and three dollars each, all winter.

Midsummer, when hens are more cheaply maintained and I can sell my eggs direct to the consumer thru the summer resort trade, is ordinarily my harvest time. But that same account book shows a deficit for the month of July, and August will be worse because the hens did not lay as well as they did last month. Every poultry keeper I know is reducing the flock to a minimum for the coming winter, simply because, at the present price of grain and the relatively low price of eggs, it is impossible to continue the business.

Dairying is no better. I am not a dairy farmer but this is a dairy section and nearly every man I know keeps some cows. The average cost of producing 100 pounds of milk has been estimated by state experiment stations at $2.75 to $3 and it is generally conceded that this is a conservative figure. Yet when the price reaches $2.50 (which it rarely does) people call that pretty good because it is so much better than the dollar to which they are accustomed. As a matter of fact, the farmer has worked so long for nothing that he considers himself fortunate if his products pay his taxes, depreciation on his plant, and interest on his investment. If he should get a few cents a day for his labor, he would think the millennium had surely arrived.

I did handle butter on the market a short time this spring, but city customers objected so seriously to paying even a few cents above the price I had to pay right at the farm that I bought no more. Many hucksters tell me that they have big dairies themselves but they can't afford to make a pound of butter at the price for which it sells today. The last time I went to market a steady stream of customers tramped up and down the line asking every dealer for butter, but not an ounce seemed to be forthcoming. And if we had had it they would have stormed furiously before paying the market price, tho that price is lower than we get for the milk without making up. And the price of milk is still below the cost of production if any allowance be made for labor involved—and men are working 16 to 18 hours per day in the city for nothing.

Why do not those city critics who see millions in the farming business come out here and get rich themselves, and incidentally perform the patriotic duty of feeding the nations?—E. M. A.

THE DUPE IN DUPLICATION

During the past few years Pennsylvania State College has been grasping every opportunity to do something in the name of agriculture. They are now trying to train our preachers. Where are they not using money to accomplish something not requested? Advertisement for the institution before the next appropriations are granted, of course, is the real motive.

A few days ago a letter from State College, containing much stationery and a personal card from one of the professors, was found on my table. It was a request for information that could be used in a bulletin containing a list of purebred livestock in Pennsylvania. By the side of this letter was Bulletin No. 286 from Harrisburg. Mr. Wible, the State Statistician, gives in it exactly what State College intends to put out in another bulletin. Is it not about time for the said institution to quit sending its salaried men to Harrisburg to lobby for money to repeat what farmers and other people have had already sufficiently well explained?

All the while State College shouts on every side: "They are duplicating! They are duplicating!" When our boys and girls go to State College to school they have to be very careful if they get thru a year without a cash expenditure of four hundred dollars. The state treasury also pays three or four hundred dollars per year or more possibly by now for each student. These figures applied and were conservative before the last appropriation. Farmers will soon be asking why pay seven or eight or nine hundred dollars for a year of education when there are many first class institutions offering the same with better personal attention for half as much money.—A Tax Payer.

The war is going to be fought in the mines, the factories and the fields of the United States just as much as it is in Flanders and in France. In order to make things secure in this country, in the rear, economic and financial policies must be framed according to business experience and to the principles of common sense, and new experiments must be tempered with great moderation. Failure to recognize this caused the trouble in Russia.

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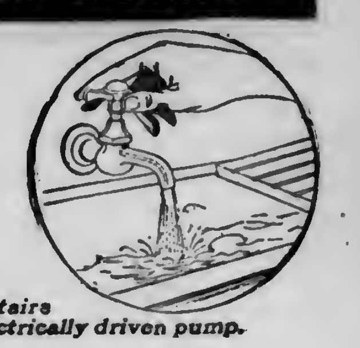

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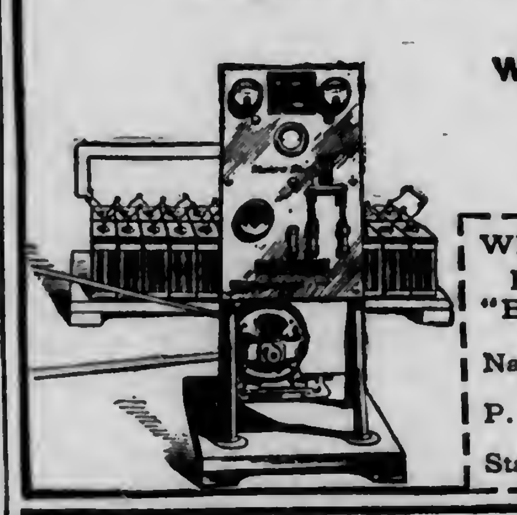

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FLOUR $10.36 Per Barrel
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Our Best Flour	$10.36	per barrel
" " "	5.18	per half barrel
" " "	2.59	per 49-lb. sack
" " "	1.30	per 24½-lb. sack

SUGAR $5.00 Per 100 lbs.
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Our Best Granulated Sugar	$5.00 per	100 lbs.
" " " "	2.50 per	50 lbs.
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Here is Our Plan

Send us $1.99 for the following Trial Order and we will then know that you mean business and we will include with your order our Bargain Grocery Catalogue in which you will find big grocery bargains.

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¼-pound Black Pepper (Ground)	25 cents	15 cents
¼-pound Cinnamon (Ground)	25 cents	16 cents
¼-pound Ginger (Ground)	25 cents	16 cents
¼-pound Mustard (Ground)	25 cents	16 cents
2 bars Kirk's White Flake Soap	16 cents	9 cents
2 packages Uneeda Biscuits	16 cents	8 cents
1 bar Fels Naphtha Soap	6 cents	8 cents
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The Claim in the Foothills

By Addison Howard Gibson

Slowly the emigrant train wound its way thru the rough foothills. Both teams and travelers showed evidence of great weariness. The only woman in the party who had not voiced a complaint against the long, tiresome journey from Oklahoma was Mildred Elkins. Her patience and continued cheerfulness, coupled with the knowledge that she was the only unmarried woman in the colony, rendered her of special interest to the wifeless claimseekers.

Tired of teaching school, Mildred Elkins had gladly accepted the invitation to accompany the Neal family with a colony whose purpose was the planting of fruit ranches in the warm, sheltered foothills of Arizona, where climate, soil and a sufficient supply of water were favorable to the ultimate success of the enterprise. Mr. Neal, leader of the colony, and his wife found in the girl an invaluable assistant in caring for the five fretful little Neals.

Seldom a day passed, when the wagons stopped for the night's camping, that Mildred did not gather the children of the colonists about her and sing for them or tell them stories, thereby resting the worn-out mothers and winning their blessings.

On the last day of their trek, while the jaded teams rested, and the travel-stained party relaxed for the noon stop, Mildred wandered away by herself.

Wending her way up a narrow canyon, she paused now and then to gather an early wild flower, coaxed out by the warm February sun. She had not gone far when she heard the sound of a man's heavy boot striking against the rocks of the trail she was following.

The footsteps carried an individuality that brought an expression of vexation to her face.

"Don't you want company, Mildred?" the man asked, as a few more steps brought him to her side.

He was tall and slender with shifty brown eyes, and his face just now was bristled with a four-weeks' growth of uncouth-looking, untrimmed beard, while his travel-stained overalls displayed a conspicuous uniformity of dirty finger-marked stains.

"No, I don't," declared the frank-spoken girl. "I came out here to be alone a few minutes."

The man's eyes drank in his companion's beautiful, tanned face, and supple, graceful figure, clad in its becoming blue denim jacket and short skirt, and bending toward her he announced:

"Well, since I'm here, with or without your permission, I'm going to have my say."

"You needn't say anything, Mr. Barrow," she anticipated him. "I can suspect what you are going to repeat and I assure you that it is only a waste of time."

Unheeding, he went on: "What's the use of being a fool, Mildred? You know that I want you; you're alone in the world, and you need some man to look after you," he reminded her.

"Mr. Barow, I beg of you to—"

"Now look here, Mildred," he interrupted her; "its tomfoolery for you to think of taking a claim and starting a fruit ranch by yourself. That's a man's work. You're educated in books and music, and you can't make ranching go. You take my word, you won't find it safe to live alone, for the single fellows in the colony will be after you like a pack of wolves. You can take my word for that. You don't know men."

"And you don't know women, Mr. Barrow," she shot back. Then she added with decision: "I intend to take a claim, and I am not afraid of the treatment that the men of the colony will extend toward an unprotected, respectable girl."

Her clear hazel eyes looked squarely up into the shifting beady ones of her troublesome suitor.

"Then you won't have me?" he asked, kicking an unoffending prickly pear by the side of the trail.

"No—and for all time, no!" her firm, clear tones voiced her decision emphatically.

"I don't see why; I'm as good as the rest of them," he insisted.

"No, you are not," she flashed back. "What right have you to talk of marriage? You, with a deserted wife in Texas."

"Who told you that?"—an angry oath close to his lips.

"No one; I saw the letter she wrote to Mr. Neal before we left Oklahoma."

"A divorce is an easy job," he blurted with a coarse laugh. "Come, Mildred, say yes. I want you."

"Well, I don't want you," she indignantly repulsed him. "I wish you would keep away from me—I almost hate you," and angry tears came to her eyes as she turned away.

"I suppose you think Ellis Talbert will turn up," he taunted her. "Well, maybe his spook will, for that drunken cowboy in Wyoming settled his hash. If you're waiting for him you'll die an old 'maid,'" she heard him jeer as she hurried away.

Sid Barrow shook his fist in her direction as she entered a cowpath that led into a group of live oaks and disappeared, and with a muttered oath at his dismissal, he stalked angrily back to the wagons.

"I'd die before I'd let that great cowardly brute see how much he hurt me," she almost sobbed, as she leaned against a tree, and for the first time since she had started on the long trip to this unknown land, Mildred Elkins was truly miserable.

Very seldom did she allow this feeling to control her, but Sid Barrow's last speech had torn open the floodgates of regrets, and ere she could close them she was struggling hopelessly in their wake.

"I wonder, if after all, I was to blame because Ellis Talbert went away," she turned the old, sad cry over and over in her mind as if trying to view it from another and new angle. "Some folks think I was, and then because they say he was killed, I have always been blamed." And the cruel charge forced itself before her every time his name was mentioned, sending her heart on a self-accusing rampage.

Ten years ago, when she was eighteen, her one great, dominating dream was to become a singer, a world-famous, much sought after, glorious singer. He had been her lover; her handsome, impulsive boy-lover, who had loved her from their happy childhood days. But she had persistently refused him, her ambition standing a huge, insurmountable barrier between them.

Angered at last, that the girl he had always adored would have none of him, the hot-headed, impulse-swayed young lover had gone away, and not long after that a report had reached the old home that he had been killed. Then Mildred Elkins found her heart and knew that she had always loved him, but ambition-blinded she had sent him to his death in the far-away west. Then followed reverses in her father's affairs, and she was forced to give up her music to teach school, to support her fragile mother and herself.

Calls from the camp aroused the memory-enshrouded girl, and she started back. Lifting her eyes to the mesa above her, she saw a stranger who seemed to be regarding her intently. He was seated with easy, half-lazy grace upon a beautiful chestnut-sorrel pony. When he saw that he was discovered, he straightened up, and at a motion of his hand, the well-trained animal dashed away down the slope, and was soon lost in the dense chaparrel.

"One of the natives," she presumed.

. . . . . .

After helping the Neals get settled, Mildred chose a claim for herself. Farther up in the foot-hills she had discovered, in a wide canyon, a spring sentineled by live oaks and cedars, as if guarding it from an over-looking bluff. She took possession at once of this promising oasis, and, with the assistance of Mr. Neal and a Pima Indian, she soon had a dwelling made of boards and canvas cloth, similar to the hastily constructed houses of the colonists. When she had bought a cow and pony, and employed the Pima to bring her some fruit trees from a nursery near Phoenix, she felt started toward becoming a typical ranch-woman.

"Don't worry about your land-title, Mildred," advised Mr. Neal when she mentioned going to the county seat to get it out. "Some in the colony are waiting for money from Oklahoma; others are busy about their places; then, Mr. Bradley, the land official, is down in Mexico. We might as well wait until he returns, then we'll all go over together. I know him, and he knows we are here, so it's all right. Another thing—he knows the land laws of the territory like a book, and papers made out by him will never be contested."

Not since the old home had gone to avaricious creditors at her father's death, had Mildred felt the joy of living as she did in the little place she called her own. The foothill claim kept her busy, and now that Mr. Neal had advised her that there was no need for haste in securing legal title to the land, each day found her making some new improvement.

The flower seeds from home were soon sprouting in the fertile soil, dug up by her strong brown arms and made into beds around the house. For she was determined to have flowers, if her back did ache carrying water from the spring to nourish them. When the Pima returned with the trees, she set him to making irrigating ditches so as to use the water constantly overflowing from the big spring.

One day while she and her helper were setting out the trees—fig and plum and peach—she looked up, and there, halted on the bluff, was the stranger on the handsome pony watching the busy operations going on to convert the isolated land from primitive ways. The short-skirted figure digging industriously in the sand, resented his cool assurance in stopping to watch her work.

"I expect he is laughing at the way I handle my tools," she observed impatiently, "for it can't be such an unusual sight in this country to see a woman rancher help plant her own orchard."

"Sit in your saddle and watch me work!" she called, obeying a sudden impulse born of his surveillance, and shaking her hoe vigorously in his direction.

He immediately rode away, a hearty laugh wafting after him.

"Who is that man?" she demanded of the Indian.

"Him 'The Lion'," he grinned, amused by the girl's annoyance. "Him afraid of nothing. Indians like him. Lives over there," indicating a high range beyond the foothills, which was veiled in amethyst shadows.

"Well, he's a very silent lion," she answered him.

Mildred was the recipient of many favors from the little band of colonists, who admired the girl's grit and determination; only one man in the colony refused to lend a helping hand occasionally.

Sid Barrow was disappointed in the land he had selected, and looked with envy at Mildred's house, and the start she had made toward an orchard. Accordingly he decided to make her lonely life as unbearable as possible. But Mildred Elkins had not taken up her life in the West without being able to take care of herself.

Shortly after she had settled in her new home she was disturbed by strange noises outside. Suspecting the origin, she let it pass unheeded, until, annoyed by her broken rest, she seized the rifle the third night they were repeated, and started out to investigate.

Near the spring she beheld a mysterious object in white; she aimed square at it and fired, with most satisfactory results, for it decamped with a precipitate movement not strictly in keeping with the wave-like gliding motion of a well-behaved authentic spook. After that, her sleep was undisturbed, tho her nearest neighbor was two miles away.

A few evenings later she found her pony's lariat cut.

"I'll complain to Mr. Neal," she declared bitterly, after seeing Sid Barrow's hand in this new deviltry. "That is the third time Star Face has been missing."

As she entered the thicket she heard voices just beyond, and was able to distinguish the forms of Sid Barrow and a half-breed Mexican who lived with him, in the bright moonlight.

"What are those men doing on my claim?" she raged. "I'll watch them for a while. They can't see me here."

"This is the best claim in the foothills, and I'm going to have it," she heard Sid Barrow swear desperately. "She won't have me, but I'll have the claim, even if they run me out of the country," he vowed.

"I know I could scare her away, if it wasn't for that chap who stopped me the last time I tried to run her cow off. He acts like he was watching me all the time. Pulled a gun on me, too. Who is he, Juan? Rides a chestnut-sorrel."

"The Indians call him 'The Lion'," replied the half-breed. "He has been in the mountains a long time; he owns a big ranch and many cattle and ponies. He has a mine, too," he added. "The Indians all like him."

"Well, I owe this 'Lion', as you call him, something for his interference," vengefully asserted Barrow. "I'm not afraid of his roar. As for Missy 'Too-good-for-me', I'll take her trick with my joker. A week from today is the time set for the colonists to deed their claims. Now, tomorrow, Juan, we'll ride over to the county seat, and you swear that you lived here prior to her coming. You say that this claim is yours, and that you are selling it to me, Sabe?"

"Si, Senor," chuckled the half-breed.

"That friend of yours in the land office will help us out, won't he? You say she jumped it while you were away on business," and they went sneaking down the trail, leaving Mildred white with rage.

"The low plotters," she glowered after them. "Somebody has been here before, for I found that little abode hut near the spring; there was enough of it left to prove that. But I don't believe it was that good-for-nothing half-breed. I'll find the pony and ride over to the county seat myself. If I wait until Mr. Neal returns from his trip to Phoenix it'll be too late, for I haven't a thing to prove my claim right now."

She started back toward the house, when she was amazed by seeing the stranger of the chestnut-sorrel pony leading her runaway animal by a fragment of the severed lariat.

"'The Lion', my mysterious champion," she gasped.

She rushed to meet him, and thank him, but he suddenly lifted his sombrero, and then went loping off across the foothills.

She found the pony tied near the house, and as fast as she could saddle her, and don her khaki skirt, she started for the county seat, fifty miles away.

With all the money she had concealed about her, and her father's revolver at her belt, she rode bravely on and on thru the night. When the welcome amber of the dawn-glow in the East touched the hills about her with the radiance of a new-born day, her waning courage revived, and still Star Face went on.

Near the middle of the forenoon, she entered a canyon about a mile from her destination, and mercy for the tired little pony bade her stop and rest. The pony had a long refreshing drink, and she sat concealed from the road by the thicket when she heard the rapid clatter of horses' hoofs striking the rocky trail which she had just left. To her horror, Sid Barrow and the half-breed, spurring their bronchos with every stride, dashed madly past her retreat.

"Oh, they'll get to the court house before me," she sobbed. "I might as well go back." But before the dun whirlwind of dust had settled, she mounted the pony and hurried away to town by another road.

"I won't give up," she muttered as she went on. "I'll face the land officials and tell them what those sneaks are planning to do."

Just as she turned the corner to put the pony in a livery stable for a much needed rest, she was surprised to see her enemies' horses standing before a saloon.

"I'll get there first, after all." she exulted, and hurried over to the court house without stopping to get a bite to eat.

As she entered the yard she saw a tall man with black whiskers run down the steps of the court house and walk briskly away in the opposite direction.

"The mysterious rider of the foothills," she thought, and then wondered why her heart should begin to beat and thump so unwontedly.

She felt confused for a few moments, but at last found her way to the hall leading to the department of lands and titles, then she stood face to face with Mr. Bradley.

She stated her case to that gentleman, who soon put her at her ease, and the tired girl thought her troubles would soon be over, when she was interrupted by the noisy entrance of her two enemies, who, whisky-emboldened, soon poured the tale of Juan's prior claim into the ears of the astonished officials.

"We have no record of a claim by the half-breed Juan," suavely replied Mr. Bradley, who had also noticed Barrow's surprised start at beholding Mildred.

"But," he went on slowly and distinctly, "there is a prior claim dating back much further than you affirm."

Mildred started up, then remembering the signs that she herself had seen that pointed to the truth of the agent's statement, she sank back, wearied and heart-broken.

"My dear little home," she couldn't help thinking. "My flowers—my fruit trees—my—"

But what was this the agent was saying?

"Don't be uneasy, Miss Elkins," he was assuring her. "The claim was deeded to you this morning by its rightful owner."

Mildred gazed at him breathlessly.

"What do you mean, Mr. Bradley?" she demanded.

"The claim is now legally yours," he smiled mysteriously. "As soon as the deed is recorded, it will be sent to you."

"Impossible! I have no friend who can afford to be so generous," declared the girl.

"Pardon me, but you have," insisted the agent.

"Who is it? Tell me his name."

"I may not tell you that, Miss Elkins," he responded politely.

"Tell me," imperatively; "is it the man known as 'The Lion', whose claim I unintentionally jumped?"

"Yes," admitted Mr. Bradley. "But he has not lived there for a long time. He was afraid you might have trouble in getting a clear title, so he attended to all the details for you. Let me congratulate you on having the most valuable property for fruit raising in the colony."

"But I shall give it back to him," promptly decided Mildred. "I could not possibly accept such a gift from a stranger."

"Stranger?" repeated the agent, again with that peculiar smile.

It ruffled the quick temper of the girl, who was about to express her indignation at the singular transaction, when the crest-fallen Sid Barrow and his low companion stalked from the office, swearing and baffled.

The agent's hasty exist caused the girl to wonder if he intended to expedite their negotiation of the long stairway. She intended to ask the clerk for information regarding the taking up of land in that section, but he immediately disappeared in an adjoining room.

Generous as he evidently intended to be, she felt exasperated at the man who had deeded her the claim, knowing what a choice morsel of gossip it would make for Sid Barrow to circulate.

"If he had only visited the claim and talked it over with me, we might have come to some understanding," she regretted, "for I can't believe he acted from any other than good intentions."

She had heard many tales from her Pima helper of his kindness and gentle actions thruout the mountains, and thought that probably the pity he had felt for a lone woman, who was being persecuted by an unprincipled suitor, had influenced his generous action, without his considering how it might involve her in unpleasant whisperings.

Just then she heard the door open behind her, and quickly said: "Its hard to give up my little home, Mr. Bradley, but I won't accept it, for if I did I could never respect myself again. I want you to tell him that I thank him, but it is impossible for me to take advantage of his generosity. I will—"

She turned to face the agent, then stopped short, for she was loking into the dark eyes of 'The Lion', which were gazing at her with an eager yearning. She stared at him in white-faced dumbness, for in spite of his western clothes, and the dark beard which strove to foil her identification, she was looking straight at Ellis Talbert!

"You!" she faltered. "I thought you were dead!"

"I wasn't far from it, for a while after that Wyoming cowboy shot me up by mistake, but I'm a substantial wraith just now, as you can see," he laughed.

"Why did you not come and let me know that you were alive," she reproached him. "You knew that I was among the colonists."

"I thought you didn't want to see me, but the old love kept me hovering near to render you what aid I could, when I saw those cowardly ruffians conspiring against you."

"It wasn't fair to let me suffer so, Ellis, for I never forgot you."

"But you said you didn't care for me, when I left the old home, so I thought you wouldn't want to be reminded of the past, Mildred."

"After you left, and I heard that cruel report, my foolish heart—" she stopped abruptly, her voice breaking.

"Mildred! My darling little Milly," using the old familiar love name. "You haven't forgotten—you do care?"

Her shy, tear-filled eyes gave him an answer which he understood. The next instant his arms had claimed her.

THE END

Bumble Bees and Clover Seed

Old Maids and Cats

A plant is a very selfish thing. We sow the seed and tend the sprout in its infancy, giving it all the fancy tidbits we are able to guess the plant appetite hankers for, and watch over its growth. As it thrives 'neath all this fussing and coddling, we smile contentedly, thinking it is responding to our efforts out of gratitude. We personify the plant and imagine it saying to itself and to its neighbors, "Mr. Hornyhand is so very kind and is giving us so many and such nice things to eat, to drink and to wear, that, really, the least return we can make him is to furnish a fine lot of hay for his horses and fodder for his cows. Let us, therefore, hump ourselves."

Not so. The plant has no virtuous notions of that sort. It does not care a fig for all our wants, desires and expectations, but is intent on one thing, and one only—to make seed. All its flourishing growth, its showy leaves, its brilliant colors, are put forth to that end alone. It grows tall to over-top its tall-growing neighbors—to have "a place in the sun". It makes use of every help that offers to make its seed good seed, able to continue the plant race indefinitely.

That the seed may be good it must be fertilized by the pollen for that purpose made and provided. Some plants are independent and attend to that little matter themselves, arguing, no doubt, with Miles Standish, "if you wish a thing to be well done, you must do it yourself, you must not leave it to others"!

But very many plants enlist helpers—the wind, insects, wandering animals—in their seed operations. Some plants go a step farther and become extremely exclusive. They doubtless belong to "the best families", and their seed children cannot mix with the common herd, but must have the choicest of everything. They have become so finicky that of all the millions of insects winging and crawling about but one kind is sufficiently select to attend to their needs. Among this plant aristocracy we find the red clover.

The clover blossom or head is not one flower, but many, assembled on a short axis. Each floweret is a tube, containing the usual organs, stamens and pistil, but so arranged by nature that cross-fertilization is needed. That is, the flower does not deposit its own pollen on the pistil, but depends on some chance visitor to render this service with pollen brought from some other clover bloom. That there might be some reward to induce an insect to climb down such a deep, narrow tube, our clover prepares a tiny drop of nectar there, the source from which bees get honey.

But the honey bee cannot gather these sweets. The workers are not provided with tongues long enough to reach to the bottom of the cup where the nectar hides. Perhaps the queen, being feminine, might succeed; but she has other fish to fry. It follows that the only bee capable of earning the reward for pollenizing the red clover is the bumble bee, celebrated in song and story.

Do you know Emerson's poem? He calls it "To the Humble Bee."

"Burly, dozing humble bee!
Where thou art is clime for me;
Let them sail for Porto Rique,
Far off heats thru seas to seek.
I will follow thee alone,
Thou animated torrid zone!
Zigzag steerer, desert cheerer,
Let me chase thy waving lines;
Keep me nearer, me thy hearer,
Singing over shrubs and vines."

In another stanza he tells of the flowers the bumble bee visits, among them the clover.

Have you noticed that the first crop of clover flowers has very little seed? It is because there are at that time but few bumble bees to fertilize the blooms. The queen has filled a few cells with larvae and the colony increases rapidly, so that when the second crop of clover is blooming the insects may visit each cup. They are busy then, over the odorous field. Your ears are greeted with the bumble bees' contented hum; your nose drinks in the perfume of the flowers; your eyes delight in the sea of delicate color. What fairer spot on earth than a clover field in bloom?

But there is a fly in the ointment. A great enemy of the bumble bee lurks in the grass. It is the field mouse. She, too, buildeth a house in the meadow, and then makes war on her neighbors. She dearly loves to rifle the stores of the bumble bee, and where field mice are plentiful bumblebees are likely to be few. Then we say "The clover is not well loaded." Nature, however, striving as ever to maintain a balance, has provided a remedy, and in the cat has given the field mouse a deadly foe. As you all know, the great conservers of cats are old maids: and there the chain is complete.

For, note well: The more old maids, the more cats: the more cats, the fewer field mice: the fewer field mice, the more bumble bees: the more bumble bees, the more clover seed.—Q. E. D.

"How admirable are thy works,
Oh nature, kind and dear."
—Howard Mitman.

"It takes a baby mos' two years to learn to talk," said Uncle Eben, "an' den it takes de res' of its lifetime to learn to keep f'um talkin' too much."

The teacher was giving the juvenile class a lesson in punctuation. "What is that?" she asked of a small pupil, pointing to a period. "That," answered the little one, "is the lid off an 'i'."

Exchange Places with Your Wife—

IF YOU are not jolted around on the front seat as much as she is on the rear seat, it is because you can brace yourself with the steering wheel. You take the rear seat, she the front. Then you'll *know* that you ought to equip your Ford with a set of the

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31x3½	10.55	11.60	2.90
32x3½	11.50	12.95	3.00
34x3½	12.15	13.35	3.55
31x4	14.75	16.60	3.70
32x4	15.05	16.85	3.80
33x4	15.75	17.20	3.90
34x4	16.10	17.55	4.00
35x4	17.00	18.60	4.50
36x4	17.20	18.65	4.30
34x4½	21.65	23.65	4.90
35x4½	22.70	24.70	5.00
36x4½	23.05	25.15	5.15
37x4½	23.95	26.10	5.35
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Cross Breeding Sheep

Results of State College Experiments

By B. O. SEVERSON

Seventy-five breeding ewes of the Delaine Merino breeding were purchased in Washington County, Pa., in the spring of 1915. Twenty-five of these are bred pure to a Delaine Merino ram and fifty are being crossed with mutton rams. During the year of 1915-16 a purebred Shropshire ram was used in the cross-bred lot while for the winter of 1916-17, Southdown X Delaine Merino lambs were raised and Shropshire X Delaine Merinos. The Southdown X Delaine Merino cross is being used for the 1918 crop. Other breeds will be used as the investigation progresses. At present early lambs to be marketed at Easter are being raised. During the year of November 26, 1915 to November 22, 1916, lambs marketed in the fall were produced. The following is a summary of results obtained:

A LONG WALK FOR A COLD DRINK IN WINTER.

Results 1915-16—Lambs Marketed in September

	Lot I 25 D. Merino Ewes Purebred	Lot II 50 D. Merino Ewes Crossbred
Total cost of maintenance per ewe	$8.59	$8.50
Value of wool	3.23	3.16
Value of manure	.98	.98
Value of lamb above cost of feed and pasture	5.38	6.31
Total annual receipts	9.58	10.45
Profits per ewe:		
100 percent lambs	.99	1.95
90 percent lambs	.45	1.32
80 percent lambs	—.08	.69
70 percent lambs	—.62	.06

WATER BROUGHT TO THE BARN WITH CHEAP BUT EFFICIENT RAM.

The annual maintenance cost includes the costs of feed in winter quarters, bedding, interest on equipment, labor and cost of grain for lamb to a weaning age. Other items considered were cost of pasture, grain for flushing, mortality risk, interest on value and service of sire. The annual receipts include the value of manure at $3 per ton, value of wool at market prices, June 1, 1916, and value of lamb in September 1916 after deducting the cost of feeds consumed by lambs on pasture.

These ewes were purchased at a cost of $5.50 per head in May, 1915. Based on a valuation of $6 per head for the year 1915-16, the Delaine Merino ewes, bred pure, returned 16.5 percent and the Delaine Merino ewes bred to a Shropshire ram returned 32.50 percent on value of investment. The original ewes were obtained from the McClay and Leonard flocks, Washington, Pa.

Results 1916-17—Lambs Marketed in March and April

	Lot I 25 Delaine Merino Ewes Purebred	Lot II 49 Delaine Merino Ewes Crossbred
Annual cost of maintenance per ewe	$10.20	$10.05
Cost of marketing lamb	1.17	1.17
Cost of feed per lamb	.96	1.06
Total cost	12.33	12.28
Av. weight per lamb, lbs.	45.00	48.00
Av. weight of fleece, lbs.	10.66	10.24
Market value of lamb	$8.89	$10.59
*Market value of wool	6.70	6.13
Value 657.7 lbs manure per ewe	1.31	1.31
Total annual receipts	16.90	18.03
**Profits per ewe with:		
100 percent lambs	4.57	5.75
90 percent lambs	3.34	4.53
80 percent lambs	2.11	3.30
70 percent lambs	.88	2.07

*—June 1, 1917.

**—Lambs sold March and April.

During the year of 1916-17 the ewes bred in July and August and lambs were marketed as "Early lambs" in New York, Philadelphia and Pittsburgh in March and April. The cost of maintenance per ewe was increased over 1915-16 due to increase in cost of feeds and value of breeding stock. The annual maintenance of breeding ewes includes in winter quarters, bedding, interest on equipment, labor and feed costs. On summer pasture the costs include interest on land used for pasture, grain for flushing and labor. Other items of costs included in maintenance were mortality risk, interest on value and cost of service to ram.

The cost of marketing lambs includes commission, express and cost of crates. The annual receipts per ewe include market value of lambs and wool and the value of 657.7 pounds of manure produced in winter quarters per ewe at $4 per ton.

Based on a valuation of $10 per ewe for the year 1916-17 the Delaine Merino lambs bred pure (Lot 1) returned $4.57 or 45.7 percent on value of investment when 100 percent lambs were raised. In Lot 2, the Delaine Merinos were cross bred with pure bred mutton rams of the Shropshire and Southdown breeds. They returned $5.75 per ewe or 57.5 percent on value of ewe at $10 per head when 100 percent lambs were raised.

The same breeding ewes were used during the years 1915-16 and 1916-17.

WATER FOR STOCK

The two accompanying illustrations show familiar scenes in the watering of farm live stock. Both views are from the farm of R. C. Bell, Mifflin Co., Pa. The pond was the old watering place. Here the farm stock was watered for years. The cattle and horses were driven to the pond every day. The ice had to be cut in winter to give the cattle access to the water. The water was cold, and on cold days the animals were chilled and drank only a part of what they needed. At a total cost of about $150, Mr. Bell installed a hydraulic ram which has worked continuously for over two years without a cent of cost. The second illustration shows the watering trough installed at the barn. It looks cold because of the ice accumulated outside of the tank at the time the photo was taken. But the water comes directly from a strong spring and the temperature is practically uniform thruout the year.

In addition to having the water at the buildings, within easy reach of all stock, the ram supplies water to the house, the barn and the lawns.—J. S.

GRAINS FOR FATTENING HOGS

Substitutes for Corn

Feeders can reduce the amount of corn fed to hogs by substituting other feeds. This is especially desirable with high-priced corn and its increased need for human consumption. Pastures and forage crops properly used can reduce the corn and other concentrated feeds fed to hogs from one-half to one-fourth. There are, moreover, many feedstuffs which can be substituted for the other portion of corn. Their use will be determined largely by their availability, relative feeding value, and cost per pound as compared with corn. Hog feeders, by getting in touch with the feed-manufacturing industries in their section, may discover profitable substitutes for corn. Feeds unavailable for human consumption should be used as far as possible.

A number of substitutes for corn with suggestions for their use are given below. The feeding value, methods of feeding, and the highest relative cost of a pound of each feed to a pound of corn at which profitable substitution can occur are given for each feed. For example: A pound of feed with a feeding value four-fifths that of corn must cost at least one-fifth less before substitution is profitable purely from a monetary standpoint.

Oats. — After crushing, oats have three-fifths the feeding value of corn. They can be substituted profitably for corn, therefore, when a pound of crushed oats costs two-fifths less than a pound of corn. In a fattening ration, oats should not compose more than two-thirds of the ration during the early part of the feeding period and should gradually be reduced until, during the last 4 or 5 weeks, they are entirely omitted from the ration. Oats are excellent for adding bulk to a ration and are especially good for brood sows.

Barley.—Barley when crushed is an excellent feed for swine and can be substituted entirely for corn, even when it costs the same per pound.

Rye.—When costing nine-tenths as much as corn per pound, rye can be substituted for corn in the ration. It should be fed ground or crushed and is best fed as a slop.

Damaged Wheat.—Frosted wheat or wheat damaged in other ways and unfit for milling can be substituted even when equal in cost to corn per pound. Wheat should be ground, crushed or soaked.

Emmer.—Emmer or spelt is a bulky grain. It can be substituted for corn when costing three-tenths less per pound. A partial substitution is best. This feed should always be ground and is best when fed as a part of the ration along with concentrated heavy meals to give bulk to the ration. A combination of corn and emmer proves far superior to emmer alone.

Buckwheat.—Buckwheat can be substituted for corn when it costs one-tenth less per pound. It should be fed ground and is best as a partial substitute, for it tends to produce a poor quality of fat.

Beans.—Cull beans can be substituted for corn if below the cost of corn. Beans make soft pork and always should be cooked and salted before feeding. It is better to substitute the beans for but one-half the corn and so prevent soft pork and increase the gains.

Hominy.—Hominy feed or meal is a by-product from the manufacture of hominy grits for human consumption. It is excellent for hogs and can be substituted for corn even when one and one-seventh the price of corn per pound.

Mill Feeds.—Wheat shorts or middlings are a by-product of the milling of wheat. While a feed high in protein, it can be substituted for corn when one and one-tenth the cost of corn. It is best as a nitrogenous supplemental feed and when forming but a part of the ration. Owing to its heavy, pasty nature, if fed alone for a long while digestive troubles are liable to occur. No protein supplement is necessary for a ration of shorts, altho lime, in which shorts are low, should be supplied.

Barley Meal.—Barley feed obtained in the manufacture of pearl barley and barley flour has about the same feeding value as a mixture of wheat bran and shorts and can be substituted for corn when costing the same. No protein supplement is needed. It is rather bulky and generally used as a protein supplement when usual prices exist.

Peas.—Pea meal can be substituted for corn when costing one-twelfth more than corn. It needs no protein supplement, but, owing to its close nature, should be fed with a bulkier feed. It is best used as a partial substitute. A fine quality of pork is produced by pea meal.

Garbage.—Garbage is well utilized by swine. Care must be used in feeding to remove soap, washing powders, glass, etc., which may kill pigs.

Molasses.—Blackstrap molasses when two-fifths cheaper per pound, can be substituted as one-third of the corn in a ration. Its usual value will commonly prohibit such substitution.

There are many wastes and by-products from other industries, such as canning factories, which are of feeding value to swine. It should be remembered that, with bulky by-product feeds such as distillery grains, brewers' grains, and pea cannery refuse, the hog, owing to his digestive system, can not utilize these as well as cattle and sheep.

When the prices of corn and of nitrogenous by-product feeds such as bran, peanut meal, soy-bean meal, velvet bean meal, linseed oil meal, tankage, fish meal, etc., are relatively close, a larger amount of these concentrates high in feeding value can be fed and partially substituted for corn. This will naturally increase the percentage of protein in the ration.

NO TIME FOR HOG CHOLERA

Burning $16-hogs that have died of cholera is no pleasant duty. The Nation, moreover, cannot afford the food loss involved. During the year ending March 31, last, hog cholera caused losses in this country of more than $32,000,000. Every hog raiser can aid in preventing so great a loss from cholera recurring this year. Keep the hogs healthy. Clean pens, clean water and right feeding increase the hog's resistance to disease.

Effective control of hog cholera requires more than individual effort. It requires neighborhood co-operation. When cholera appears in a vicinity all hogs on neighboring farms should be promptly treated with serum or serum and virus. Quarantine of the premises where there is cholera or where herds have been double-treated should be enforced for a reasonable time. Hogs dying from cholera should also be quickly burned or buried, and a thoro disinfection made of the yards and pens before the quarantine is removed.

MAKE CRIBS RAT-PROOF

One of the food conservation suggestions made by the Missouri College of Agriculture is rat-proofing corn cribs and granaries. A few years ago it was estimated that every rat on the farm cost the farmer $1.82 a year. With the present high prices of feed, seed and grain the cost will amount to much more than that. In most of the grain growing states a fair estimate of the rat population of a farm would be about 25 to 50.

These rats eat chickens, stored grain, corn, wheat and other small grains, and some of the food prepared for the table. The grain farmers does not notice the loss of grain readily since much of it is picked up in the fields by mice and rats. However, some idea of the loss can usually be gained by examining the crib in spring when the corn supply becomes low. On some farms several bushels of corn will have been shattered by rats and mice and the germs of the grain removed. This represents merely the grain which was partly eaten. It does not represent that which was entirely consumed by the rodents.

E. W. Lehmann of the Missouri College of Agriculture suggests that since farmers are doing their utmost to produce maximum crops they should also take necessary precautions to save the food produced. One method of conservation is to eliminate this loss caused by rats and mice. Concrete may be used to keep them out of the basement. Concrete floors may be built for new corn cribs and granaries and small mesh wire netting can be placed in the walls. Old cribs and granaries, chicken coops and poultry houses should also be made rat-proof.

Dairy Cattle

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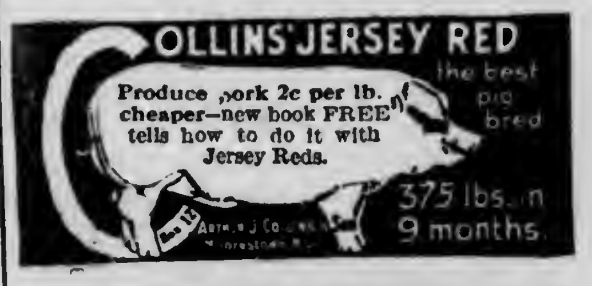
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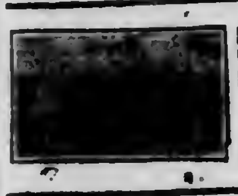
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Veterinary

Conducted by W. C. Fair, V. S.

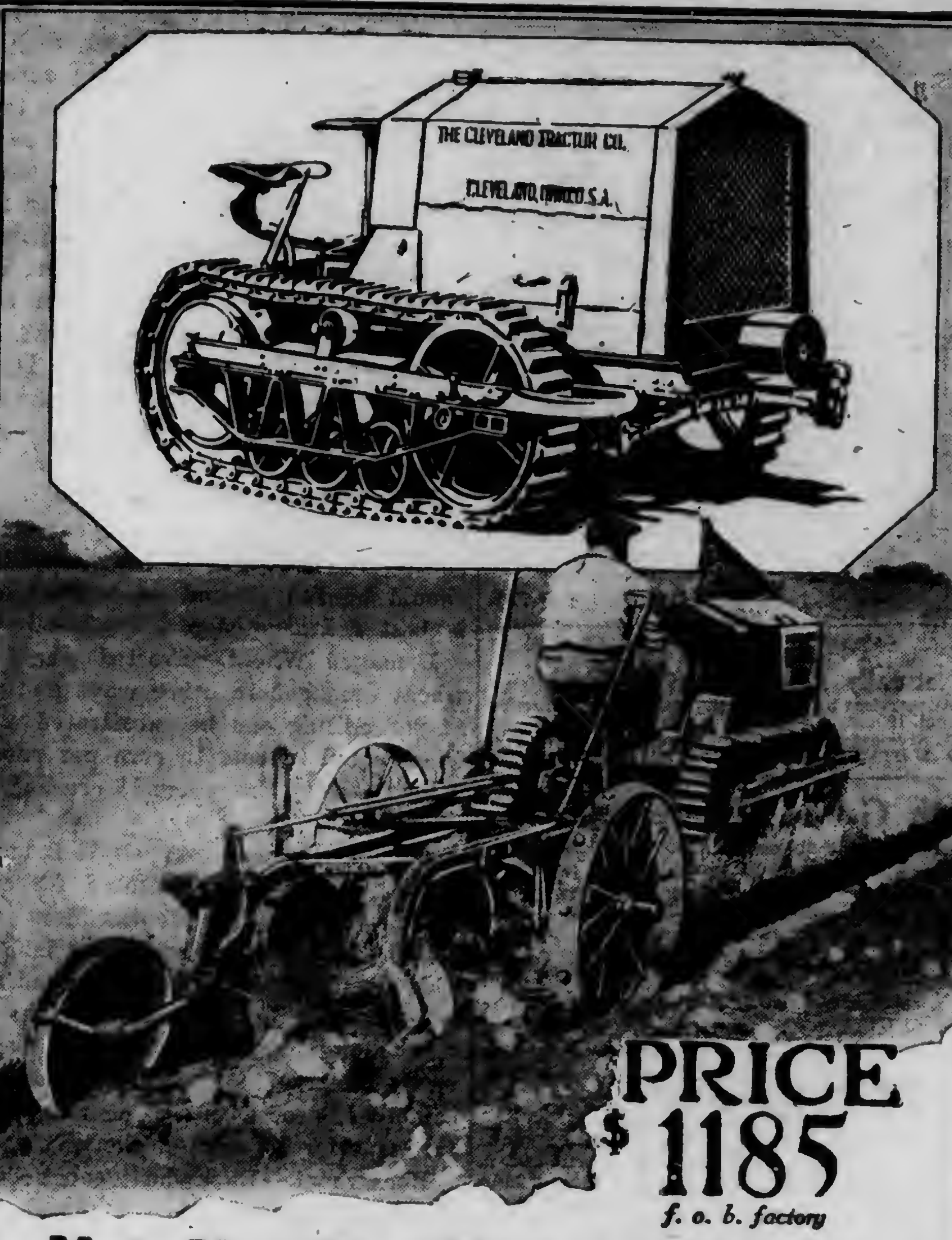
Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Worms.—I have a horse that is troubled with long white worms. I first noticed him passing a few about a year ago. Our veterinarian prescribed for him and the treatment seemed to have a fairly good effect; but the animal is now as bad as ever. A. H. W., Tioga, Pa. — Mix together one part powdered sulphate iron, one part salt and two parts ground gentian and give one tablespoonful at dose in feed, night and morning. Every two weeks, give one quart of raw linseed oil until four doses of oil are given.

Miscarriage — Rheumatism. — I have two cows. Both of them miscarried. One of them seems to have entirely recovered, but the other one is stiff and rheumatic. Most of the soreness appears to be in her hind quarters, one hip being worse than the other. I have noticed that she is much worse during damp weather and I am anxious to put her in condition and prevent if possible their having another miscarriage. The hock joints are some swollen. F. C. L., Stouchsburg, Pa. — Your cows should be well fed. If they have any vaginal discharge, dissolve one dram permanganate of potash in three quarts of clean, tepid water and wash out vagina, once a day. You had better use a fountain syringe with fairly long, hard rubber nozzle. Apply this treatment three times a week. Also, give the cow that is not rheumatic a teaspoonful of powdered sulphate iron, a dessert spoonful of ground red cinchona and a tablespoonful of ground gentian at a dose in feed, twice a day. Give the rheumatic cow a teaspoonful of sodium salicylate and one dram ground nux vomica at a dose, three times a day.

Snuffles—Sore Feet.—Have ten young pigs that are about a month old. At the end of ten days they did not appear to be thriving. Some of them breathed with difficulty. I turned them out in a large lot and now nearly all of them have sore feet. Two of them seem to have a complete closing of the nostrils and breathe thru the mouth. One has a hole thru the nose between nostrils. They also have some other sores on body and a core dropped out of one sore. W. J. B., Clayton, Del.—The treatment for this ailment is preventative and along the same line as in rickets and cold in the head. In bad cases you might as well destroy the pigs as to attempt to cure them. Dissolve one dram permanganate of potash in a pint of water and wet sores, twice a day. Also, dust on boric acid on sores, once a day. The young pigs should not be allowed to run in wet grass. Wet their feet with one part coal-tar disinfectant and forty-nine parts water. The sows' feed should be changed and the feed troughs cleaned daily. The udders of sows should be washed once a day with one part coal-tar disinfectant and 99 parts water.

Partial Paralysis.—When my shoats are walking, some of them sway and tumble down behind, as if weak in back. After falling they get on their feet and will perhaps walk all right for a short way, then sway again. They keep this up for a time, then finally die. These pigs appear to have a good appetite while they are sick. They are running out doors, have a dry bed to sleep on and are fed oats and skimmed milk; besides, they are occasionally fed corn. W. M. K., Carlisle, Pa.—Your shoats appear to be suffering from the effects of feeding an unbalanced ration. Give them each ten grains of acetate of potash, ten drops fluid extract nux vomica at a dose in feed or drinking water, twice a day. Also, give them some lime water in their feed or drinking water, pouring off the first water, then refill and use. Water will only absorb so much lime, therefore there is no danger of making it too strong. Give each shoat a tablespoonful or two with each feed. You might add some tankage and green feed to their ration, but avoid feeding them kitchen swill which contains soap.



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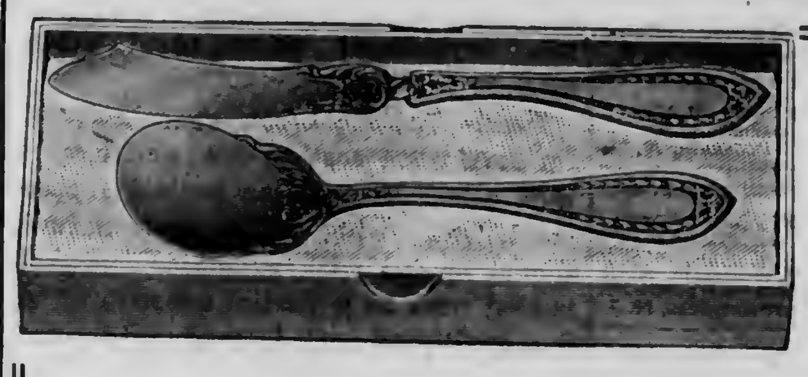

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Meaning and Making of Milk Strikes

Causes Leading to Organized Selling Point Lessons for the Future

BY

Charles Reitell and Rex Tugwell

> Note: Mr. Tugwell was Special Investigator for the Governors' Tri-State Milk Commission of Pennsylvania, Delaware and Maryland. Mr. Reitell assisted the Commission in the graphic presentation of its results. The material for this article was largely drawn from the Commission's report.

Milk strikes are decidedly a new development in organized agricultural effort. Out of peaceful but ineffective individualism the farmers are emerging into that resistless power that comes with teamwork and co-operation. As one farmer put it recently, "United we prosper; divided we fail." And this is not the feeling of one farmer only, nor that of a group of farmers. Everywhere in the countryside where the influence of the agricultural school has begun to penetrate or the long arm of Uncle Sam has held out the new light, this same sentiment is to be found.

In short, the farmer has become a business man. The Producers' Associations that are beginning to flourish wherever market milk is made are very like the Manufacturers' Associations of the city. And like manufacturers, farmers are learning their business lesson well—namely that: First, a knowledge of incomes and costs is necessary. Second, depreciation of buildings, tools and livestock is a legitimate charge against the farming business. Third, farmers unorganized in methods of selling are no match for the highly organized milk dealers. Fourth, the knowledge of business practice must be united with the strength that comes with organization.

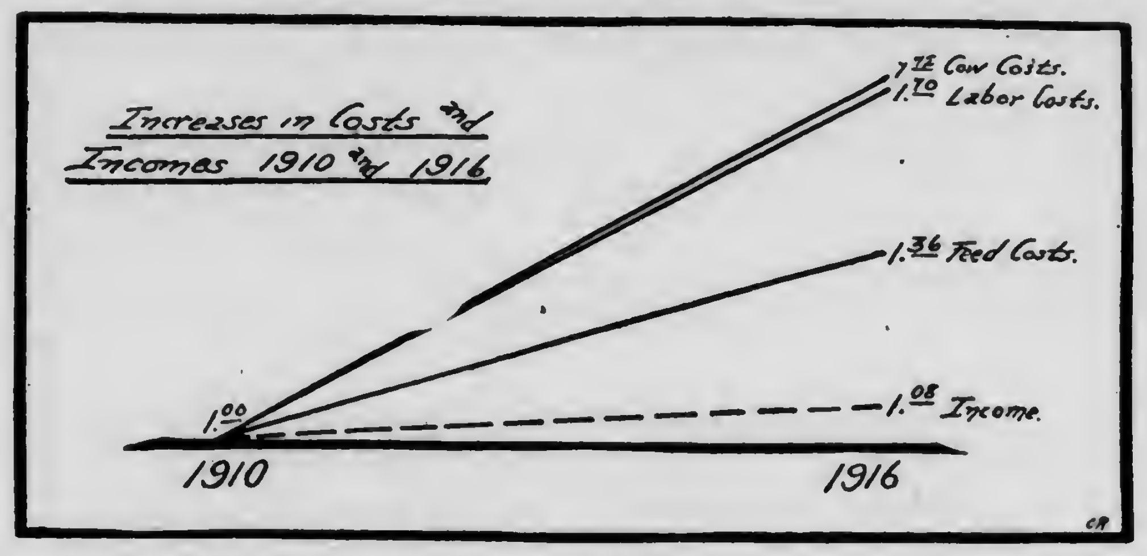

FIG. 3. SHOWING INCREASES IN COST AND INCOMES 1910 AND 1916.

Not in a day nor in a week, nor even in a series of months, have the influences developed which have resulted in the strikes such as occurred in Chicago last September, in New York last October and in Pittsburgh this fall. These strikes are the result of forces that have been at work for many years.

Modern manufacturers have long since learned that strikes are not caused solely by outbreaks of agitators. The walking delegate simply applies the torch. The explosive material is made in the slow, grinding processes—processes whose conditions create dissatisfaction and discontent. So with the producers of milk. Over a period of five or six years the costs of feed and cattle have been increasing with growing speed; buildings and implements have been wearing out with expenses of replacement mounting; farmhands have been difficult to hire at any price. And all these increased costs of operation to the farmer are coupled with little change in added income from milk. What are the results? None other than that these are the rock-bottom influences which now have driven the farmers to open outbreaks. These are the underlying causes for the milk strikes that have lately threatened the vitals of city life.

Relation of Costs to Incomes

Whenever the government has stepped into business activity to the extent of saying what rates should be charged, the courts have held that the rates must be large enough not only to cover the costs of running a plant, but also must include the expenses of wear and tear, and must allow a fair return on capital invested. Milk rates paid to farmers do not allow for such flowery conditions.

This is shown in the results of the investigation of the Governors' Tri-State Milk Commission. Two hundred and twenty-six farmers are on record with the Commission, having given written statements of their detailed costs and incomes. About 350 others were personally visited by representatives of the Commission. These returns as of September 30th, 1916, show the average annual cost per cow to produce milk was $130.36. Itemized this appears as follows:

Barns, land, equipment, etc., $9.04; cost and depreciation of cows, $10.03; food costs per cow, $71.02; labor costs, $24.03; delivery costs, $6.61; special and miscellaneous costs, $9.63. Total costs, $130.36.

Placed on a "cost-per-quart" basis, the reports to the Commission show $0.046 per quart. This is somewhat less than the costs of experiment stations; i.e. Massachusetts Experiment Station Bulletin No. 45 gives $0.0545; Connecticut Experiment Station Bulletin No. 73 gives $0.0478; and N. J. State Bulletin No. 31 gives $0.0498.

Charted, the figures showing the average annual cost per cow appear as shown in Figure I on page 4.

These costs are the ever-present outlays that the farmer must expect to meet. They register rigidly a point below which the farmer's selling price cannot long remain if he expects milk-farming to be a paying venture.

Against these expenses of making milk should be placed the returns to the farmer. This means the study of incomes from the sale of milk, also manure, calves, etc. Itemized, the income shows: Milk, cream, buttermilk, skim-milk and butter, $99.01; manure, $11.06; calves, $7.97; sale of cattle other than calves, $7.73. Total income, $125.77.

Charting these incomes, they appear as shown in Figure II. It should be noted that these incomes show a yearly yield of $125.77 per cow, or almost $5 less than the total costs of maintenance per cow.

THE FARM TRACTOR DOING ITS BIT IN SILO FILLING.

Only when the farmer sees, and sees clearly, the difference between the cost of making milk and the relative incomes from sales, will he be in a position to bargain intelligently with the distributors. Hence the importance of a definite knowledge of costs and incomes. This tendency of costs to exceed incomes shows itself as a strike-making influence when we look back over a period of six years.

The relative increases in cost and income can be seen when all are reduced to the dollar basis and charted. (For example, feed purchased in 1910 for one dollar would have cost in 1916, $1.36. Milk sold to the dealer for one dollar in 1910 yielded only $1.08 in 1916.) These costs are the averages of

(Continued on page 4.)

Making a Short Job of Corn Husking

How to Handle the Corn Crop When Time and Labor are Scarce

By JOHN MARSH,

JEFFERSON COUNTY, OHIO

Husking a large acreage of corn by hand is a slow and monotonous task, especially when the farmer is without help, as is the case on so many farms. Cold weather may set in early, with a part of the crop still in the fields. Even after the corn is all husked and cribbed, the stover is still exposed to damage from snow and wind, and must be hauled and fed out in the open, a disagreeable task in cold, stormy weather.

For those who have storage room for shredded stover, there are many points in favor of husking and shredding the corn crop with the machine. Machine husking takes less time than husking by hand, therefore the work can be finished before cold weather. If the stover can be stored when it is dry, the loss from molding in the mow will be very small, and the shredded stover will keep in fine shape for feeding.

The following method of handling the crop was followed last year, and was found to be economical in time and labor. The shocked corn was hauled from the field direct to the machine. Three or more teams were necessary to keep the husker supplied, the number of teams depending on the distance and the capacity of the machine. The wagons used were equipped with hay racks, and low wagons were used when available, to facilitate loading. Two men were kept in the field to load the wagons. The shocks were torn apart, and handed up to the teamster in armfuls and placed crosswise on the racks, with the tops all one way, beginning at the rear end of the rack and building the load up to its full hight. When unloading, the men began at the front and unloaded all down to the rack, taking the entire load as they proceeded toward the rear. By this method they avoided trampling, and the stalks were delivered straight and unbroken on the feed board. The only condition which interfered seriously with building a nice load was strong wind. From eight to fifteen shocks were hauled at a load. Corn which has been cut with a binder is easier to handle, both in the field and at the machine; however, by following the above method, no serious difficulty was experienced in handling loose fodder.

A REPRESENTATIVE SHOCK OF THE 1916 CORN CROP. A. D. RADEBAUGH FARM, HARFORD COUNTY, MD.

Two men were kept busy sorting and cribbing the corn. The ears were run from the elevator of the husker directly into a deep wagon box, where one man sorted the corn, keeping the short corn separate in one end of the box by means of a division board. He also removed the husks from each which were not husked clean. When the wagon was full, the second man hauled it away to the crib, and an empty wagon was backed under the elevator by hand, thus only one team was necessary to haul the corn. The sorter picked out desirable seed corn, throwing it in a basket in the rear end of the wagon.

Unless the corn is very dry, it will not shell badly. The shelled corn is screened out and delivered in sacks at the husker. It is fairly clean and can be used for feeding poultry. It will not keep without molding if it is stored in bulk, but should be spread in a thin layer to dry.

In addition to the two loaders, three teamsters, one sorter and one hauier, an extra man may be needed in the mow to keep the shredded stover evenly spread and packed. The shredder crew of three or four men are usually boarded at the farm where they are working. Several farmers can neighbor together, helping each other with men and teams, saving the expense of hiring labor, and materially reducing the total cost.

The price paid for husking and shredding varies from $1.50 to $2.00 per hour, for a small, four-roll machine, to $3.00 or more per hour for large, six and eight-roll huskers. At these prices the farmer must deliver the fodder on the feed board of the machine. The charges are usually maintained during working hours, irrespective of whether the machine is running or idle, therefore enough wagons should be secured to keep the machine constantly running up to its full capacity.

As an average, from five to eight acres can be husked and shredded in a day, at an average cost, for the machine alone, of $3.00 per acre. Under favorable conditions, corn can be husked as cheaply as by hand husking, and the stover shredded and stored under shelter almost without any additional expense. If a man places a fair value on the comfort of himself and his stock, it is worth the price of the shredding to be able to feed the stover indoors during the cold, stormy winter months.

Heating and molding in the mow is caused by an excess of sap in the stalks, rather than by external moisture, such as snow or rain. Molding is most likely to occur at the point where the stover is packed as it comes from the blower, hence it can be avoided, providing the stalks are not too sappy, by keeping the shredded mass evenly spread over the mow, and the stalks and blades properly mixed.

Altho the practice is not general among farmers, we have known shredded stover to be baled and sold for feed. Bright, clean stover has a feeding value almost equal to timothy hay for horses and young stock, and a market for this product could be found in most localities. It bales up nicely, and makes a neat bale, which is easily held by two wires. Extensive corn growers who cannot profitably make use of all the stover on their own farms might try the experiment of baling part of the crop and offering it for sale. It should sell readily at a slight reduction from the price of timothy hay.

Editors' Note.—The increasing scarcity and cost of farm labor has been the chief impulse to farmers in the adoption of machinery for farm work. As necessity is the mother of invention, so it also forces change of system and method in farming. While some work can be better done by hand than by any machine, yet it is often too high a price to pay for being particular. In these days when little corn is sold on the ear it matters little that some is shelled in the process of husking, providing care is taken to cure it properly before storing in quantity.

Wanted--More Labor and Better Returns

By C. C HULSART

Monmouth County, N. J.

Early one morning last week my telephone rang. On answering it I learned that a neighboring farmer was on the wire trying to solve a problem that has been a "bone of contention" with almost every farmer during the whole season. This man was inquiring for help and wondering where he was going to get it. He said that he had a hundred crates of tomatoes to pick that day, and not a man on the farm other than himself. That lot of tomatoes was worth $125 to him at market prices that day. The vital question was how to get the tomatoes picked, packed and on the road to market. Remember that tomatoes are a perishable product and must be handled strictly on time or they are a total loss.

I have not cited this case with the idea that the readers of Pennsylvania Farmer would be interested in an individual case. But this incident is typical of many occurring all over the country. Perhaps not all have been as pronounced as this one, but I venture the assertion that 80 percent of our farmers have been handicappd in like manner more or less—mainly more—the whole season. Now what are we going to do about it? I hear some one say: "We are all in the same boat and taking our medicine from the same bottle." Yes, and how did we get there?

Go back with me, six or eight months. Can you remember the great hue and cry that went out from the city consumers over the high cost of living; how the "powers-that-be" appointed committees to investigate the cause, and how our administration, both state and national, appealed to the farmers to use every effort to produce more food? Do you remember how the press took up the hue and cry until the ring of it was in everybody's ears during every waking hour? And I doubt not that it was dreamed about by some while sleeping. Do you remember, too, that the farmers thruout the land were promised all the help that would be needed to prepare this extra acreage, plant, cultivate and harvest it? May I remind you, too, that we as farmers were promised all sorts of protection, such as a staple price for fertilizers, a minimum price for our produce, etc? Now, what did we get?

The price of wheat was fixed and that price made public as late as August 31. There was also an attempt to furnish some help for farmers by somebody who did not know what he or they were doing. Factories furnished lists of men to be available for farm labor, but when called on most of these men refused to go, some saying that they only signed for a lark anyway. It was just as well that they did not go, for they were useless as farm help and many of them could not earn their board, to say nothing of wages. I could continue and cite more that was promised to the farmer to induce him to produce more food material in competition with himself and his neighbors, regardless of what that crop or crops cost to produce. And all this, so the town and city people could live cheaper but still demand high wages.

Last season (1916) was a fairly good one for farmers. The volume of crop was fair; prices were above normal on many food products. That, coupled with the appeal sent out, induced most farmers to plant more extensively, in the belief that help would be forthcoming and a good market provided. Did they get it? Not on your life. The market price has not been so low, but the volume of crop is practically doubled and the Lord only knows what would be the case had we grown any more. It is next to impossible to have and keep help enough to gather what we have grown, and the end is not yet. There is scarcely a farmer who did not try to do just a little more and a little better work this season than he had done before, with the hope of financial reward for so doing. Will he realize that reward? Not in many instances; a few may.

The agriculture of this country is in about the worst condition today that it ever was, and the people trusted with the handling of it are about as ignorant of real conditions as is possible for them to be. The inconsistency of some of the advice that is supposed to come from the fountain head, the "powers that be", is simply laughable. For example, the first move was to furnish farmers with cheap loans so they might increase their acreages. Second, they were appealed to from a patriotic standpoint to use their ready cash to buy Liberty Bonds. There are two pulls, one directly against the other. Third, the establishment of employment bureaus to furnish help to us farmers. What did they furnish? A lot of poor help that evidently had been kicked out of every other walk of life and the farmer had to kick them out, too. The latest move is to conscript the farm help and the farmers' sons and recruit them for service at the front. The president is reported as saying only the other day that he would exempt farm labor because it would be October 1 before many of them would be called, and by that time most of the crops would be gathered. Will they? Will the corn crop be gathered? Will the fall preparation for next year's crops be cared for? Perhaps we will not need any farming next season, but it strikes me that next season's crops will be more important than this if the war continues. Thomas Jefferson said "The hope of a nation lies in the tillers of the soil". That truth is just as potent today as it was in Jefferson's time.

When a farmer can not earn as much money at farming as he can at other callings, there must be a screw loose somewhere. When a man can not do enough work with his own hands and head at farming to make a comfortable living for himself and those dependent upon him, there is something wrong with the business. These conditions in farming are pertinent questions that must be solved sooner or later. Germany has fostered her agriculture for generations, and it is taking the whole world to conquer her. The most valuable defense in warfare that is being overlooked in this country is a prosperous agriculture. They may appropriate billions of dollars in money; equip and train millions of men; manufacture unlimited quantities of war supplies, but without bountiful crops the whole structure falls.

To prevent that possibility the agriculture of this country must be better fostered. Believe me, the farmers are tired of working 14 to 16 hours per day for their board and a pair of cotton overalls occasionally. That does not sound much like the tommyrot we read almost daily of the farmer rolling in wealth. I have read some of this stuff but have seen mighty little evidence of it on the farms. Unless something is done to insure a sufficient labor supply and a remunerative return, the season of 1918 will not see the farmers paying war prices for fertilizers and other necessaries without a guarantee as to what they are going to receive for that crop and where they are going to get help to do the work.

The dirt collected on the outside of the automobile engine is not merely an eyesore. It gets into the bearings and causes loss of power and wear. This shortens the life of the engine. If the dirt is removed regularly this wear is prevented, and the car will last longer.

By the Way

By

Father Penn

And now, we are officially informed, the price of eggs is too high. The Department of Agriculture has published the results of some experiments conducted by the department at a farm in Maryland where it was found that the cost of feed per dozen eggs was from 9.2 cents in July, to 41.4 cents in November, the cost for the year averaging 12.9 cents. City papers are commenting on this and we may hear soon that a fixed price for eggs has been set, since the market price during the past year has been considerably above these figures. One thing that is not mentioned in the report is how much the eggs would have cost if the high-priced, expert labor and accounting had been added to the expenses.

Another interesting item in the report is the cost per hundred pounds of feed fed. The experimenters paid $1.82 to $2.98 per hundred pounds for mash feed materials, averaging $2.37 for the year. The scratch feed averaged $2.60 per hundred pounds. I am sure that practical poultry keepers would be interested in learning where feed might be purchased at these figures, or whether it was found that sawdust could be substituted for high-priced grain. Since others have been compelled to pay $3 to $6 per hundred pounds it seems hardly fair competition.

MEETING THE DEMANDS OF THE APPLE-PACKING LAW.

In an article in last week's Pennsylvania Farmer, a lady who had kept strict account with her poultry states that her eggs cost her 17 cents each all winter, and that a neighbor had said that her eggs were costing $3 apiece. Altho the latter is an extreme example, all farmers will remember the discouraging situation last winter when high-priced grain was being fed to hens which persisted in being idle in spite of all the coaxing and coddling that could be done. While it is the duty of all producers to be on the lookout for better and cheaper methods of production, it is hardly fair to leave the impression that sheer stupidity on the part of egg producers is responsible for the scarcity and high price of eggs.

A man who is evidently of foreign birth came in to see me the other day seeking information about the Federal Farm Loan Banks, wanting to know whether it was possible for him to borrow money with which to buy eight or ten cows, and thus enable him to begin dairying. He purchased his farm three years ago, paying only $1,000 down, the balance —$4,000—being held as a mortgage. He had been to the banks in his town but they would loan only on first mortgage, and he was disappointed upon being told that the Farm Loan banks required the same security. He seemed like an honest, hard working man, and stated that his wife and daughter were willing and able to work beside him at anything on the farm.

This is one of the thousands of cases for which there seems to be no help provided in our present financial order. Only those who have unincumbered property can borrow money without security. Others must look to friends or acquaintances who have full confidence in them. It is a difficult problem, yet no one can be blamed under our present business plan.

How to safely provide money for capable, ambitious men who are starting into farming is a question which must be solved in some way if farms are not to gradually drift into the hands of moneyed men, to be farmed by tenants. The Farm Loan Banks are a step in the right direction, but they will not help the beginners who can pay but a small part of the purchase price and have nothing for equipment. It is at this point that the Single Taxers get in their lever. Germany and some other European countries have, thru co-operative societies, solved this problem quite satisfactorily, and it is to similar organizations that we must look for a solution in America. The common people must take up the study of the problem seriously, since it cannot be expected that bankers will do it for them.

The corn husker and fodder shredder combined should prove a welcome addition to the farm equipment on Eastern farms this fall. The corn crop is heavy and it is going to be a serious proposition to get it husked and the fodder properly stored away, because of the scarcity of good farm labor. These machines have not been adopted to any great extent in the east as yet, chiefly because farmers think they do not do the work "clean" enough to suit them. It is true that most of the machines shell some of the corn, and leave an occasional husk on the ear, but this is not a serious objection. What little is shelled is conveyed to a bag, and the driver can very easily remove the few remaining husks as the ears are elevated into the wagon.

The substitution of machinery for hand labor has been steady and gradual during the past half-century. This includes the work of preparing the soil, planting the crop, cultivation, harvesting, etc. The one big tedious job yet remaining on the farms of the east is husking the corn. I believe that the prediction may be made safely that the present season will turn the minds of farmers to the consideration of adopting machines for this work, as they have for all the other work in growing the corn crop. Much valuable feed could be conserved by early husking of corn and prompt storing of cured, shredded fodder.

SAVING LABOR IN CORN HARVESTING

Many farmers are dreading the labor involved in cutting, husking and storing the large crop of corn planted this season. Help is scarce and expensive and other work, such as preparing for a larger acreage of winter grain, is pressing. The New Jersey State Agricultural College advises that where the amount of livestock is not sufficient to consume all the fodder and where the land is in need of humus and potash, the stalks had much better be left on the ground and plowed under in the spring or disked down for a fall-sown cover crop of rye. The corn will cure as well or better on the standing stalks and can be husked out any time during the fall months. It may be thrown into a wagon driven thru the field by the huskers, as is generally done in the West, thus reducing hand labor to a minimum.

The stalks contain four-fifths of the potash in the crop, as well as much of the nitrogen and phosphoric acid. Even without disking down, a good plowman can turn these stalks under quite smoothly by using a heavy chain on the plow. The organic matter thus added to the soil will benefit the following crops for several years. This practice has been adopted by numerous progressive farmers in New Jersey and Pennsylvania and seems destined to grow in popularity.

Rats are said to cause a food loss each year in the United States amounting to $200,000,000—enough to feed all the people in Belgium.

Close Skimming—Long Service

YOU find both the farmer and the housewife, after many seasons of experience with the **Lily** or **Primrose,** ready to sing the praises of these good cream separators of which we are proud. If you have to be shown, write us for all kinds of proof. Also ask any farmer or housewife who has used these machines.

The reasons for this popularity — boiled down — are that **Lily** and **Primrose** separators separate all your cream from your skim milk, and do it for years, always keeping up to the same level of close skimming, run with surprising smoothness and ease, and are very easy to keep in clean, sanitary condition. Across the double center of our **Lily** catalogue and our **Primrose** catalogue is a large, clear picture showing the working interior of these separators, explaining and indicating by arrows why they save you so much cream money. These catalogues are complete, fully illustrated, and very interesting and instructive, if we do say so ourselves.

Choosing the right separator in these days of high prices is so important a matter that the careful farmer and dairyman will sidestep risk by putting his trust in a good, reliable, tried-out and proved Harvester product—a **Lily** or a **Primrose.** Do you know the dealer? If you are not sure, write us.

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The Dairy

MEANING AND MAKING OF MILK STRIKES

(Continued from page 1.)

written reports in the hands of the Commission. The incomes are taken from sources and averaged: 1. Supplee's Alderney Dairies, Philadelphia, Pa. 2. Woolman's Dairy Company, Philadelphia, Pa. 3. City Dairy Company, of Baltimore, Md. 4. New York Milk Reporter. All reduced to a dollar basis.

The relative increases in costs and incomes for years 1910 and 1916 are shown in chart 3. It will be seen from this chart that expenses have risen more rapidly than the increase in receipts. While incomes have walked up the stairs, costs have taken the elevator. Incomes have not kept pace with soaring costs and last fall when the gap became unbearable the farmers rebelled. And just so long as this difference between costs and incomes exists, then just so long will strikes continue to be in the making.

Allowances for Wear and Tear

The most dangerous expenses to any business firm are those least likely to be seen, those losses which lie deep. Such is the nature of the losses that come from wear and tear—known as depreciation. To apply this principle specifically to the business of farming: Fences rot; buildings run down, and cows grow old and die. Too often the farmer, like many other business men, fails to see this process of decay. He counts as pure gain returns against which he has failed to charge his depreciation expenses.

The result is that after a few years have passed this continuous, unseen decay demands its toll. A need for new barns or new cows appears and no provision has been made to meet it. In the investigation of the Commission it was found that fewer farmers were able to answer questions on depreciation than on any other matter of inquiry. As one farmer said, "I'm too busy making my milk check cover my feed bills to think of depreciation." Nevertheless, his barns continue to decay and some day must be replaced.

Farmers in the future must be expected to realize this loss, and in turn to demand a price sufficient to cover it fully. And in so doing they will be acting in accordance with the best business practice.

The Farmer and the Dealer

Six milk dealers in 1915 controlled 46.4 percent of the milk distributing business in Philadelphia; in Baltimore one firm controls 53 percent of this business. In 1915, in Philadelphia, of 178 million quarts of milk received during the year, 27 millions, or 15.1 percent, were handled by one firm; 16 millions, or 9 percent, by another; 15 millions, or 8.4 percent, by a third; and 11 millions, or 6.7 percent, by a fourth. In this same city within the past few years 2,000 small milk dealers have been forced out of business by the increased efficiency and lowered costs of the larger firms.

The farmer must understand this new line-up of dealers. It is a change of vital importance. It spells big business in milk distribution. To bargain on a par with this big business the farmer himself must be a big-business man. How is he to attain it? By co-operation in selling.

To illustrate! In the testimony before the Commission, a certain milk dealer who controls more than 15 percent of the milk supply of Philadelphia, constantly argued that the law of supply and demand governed the price paid to farmers. It was therefore useless, he said, to make agreements between dealers and farmers because this law would work anyway and upset the most carefully made calculations. One farmer objected: "I live within a stone's throw of a shipping station owned by a dealer; the nearest other shipping point is five miles away. Should you say that the price this dealer pays me is fixed by the law of supply and demand? Or do I take what he is willing to pay me?"

The law of supply and demand is only free to operate when bargaining power is equal on both sides. Big business in buying must be met by big business on the selling side, and the farmer's form of big business is the Producers' Association, with organized selling power.

Association Needs

The success of any selling business rests in its power: First, to exercise control over it internal parts or members; second, to bargain as a solid unit with outsiders. Over its members the Producers' Association must exert a rigid control. It must be more than an educational grange. The whole organization must be made water-tight. The selling out of an individual farmer to the dealers cannot be tolerated. Means of prevention, such as (1) dismissal from the Association, (2) disbarment from the use of the Association's delivery service, cooling and shipping stations, creameries, and (3) bitter community ostracism, must all be exercised.

Further, the Association must also keep for its members in every producing district accurate records continually revised and brought up to date. These records will show price changes, proper depreciation charges, fluctuating costs, etc. And the Association will then be in a position to tell its members as to the kind of feed which is cheapest, stock and material which can be bought to advantage, cattle diseases which can be prevented, and the sanitation which is most needed.

In the Association's position with outsiders such as dealers, railroads, etc., it must exert an influence as strong as the powers it must encounter. Milk dealers are organized buyers; farmers are unorganized sellers. This inequality must be overcome. The dealer, for instance, must not be able to say: "During the next month the price for milk will be $.045." Rather, in contrast, the Association must be able to put it: "This month we will sell our milk for $.045 per quart." If there is a difference in the price demanded by the Association and the price the dealers are willing to pay, both parties now meet on equal terms and real bargaining takes place.

Strikes are usually the method by which a weaker force attempts to gain something from a stronger one. They are always costly to both sides of the conflict, to say nothing of the sufferings of the disinterested public. With no centralized selling body well established, the strike has seemed the only way out. Organized to sell, the farmer is not a force weaker than the dealers, to be cozened and cajoled. He is now treated as an equal. The dealer now speaks to him as one strong man to another. Strikes which have no lasting organization are of doubtful value. The strike for the time being may prove successful to the farmer; yet in a month or two, having no foundation in organization, it is likely to leave the dealer in a stronger position than before.

In the final analysis, the question sums itself in this: Will the producers of milk be willing to make this further step in co-operation? Will the Producers' Associations, already organized, take upon themselves the responsibilities necessary for decisive action in selling? Time alone will tell. This much, however, is certain: Unless co-operation comes about, bringing in its train business methods and strong bargaining power, increased expenses will find no relief in rising incomes! Continued loss, dissatisfaction, and finally strikes will ensue. Salvation can rest only in co-operative selling.

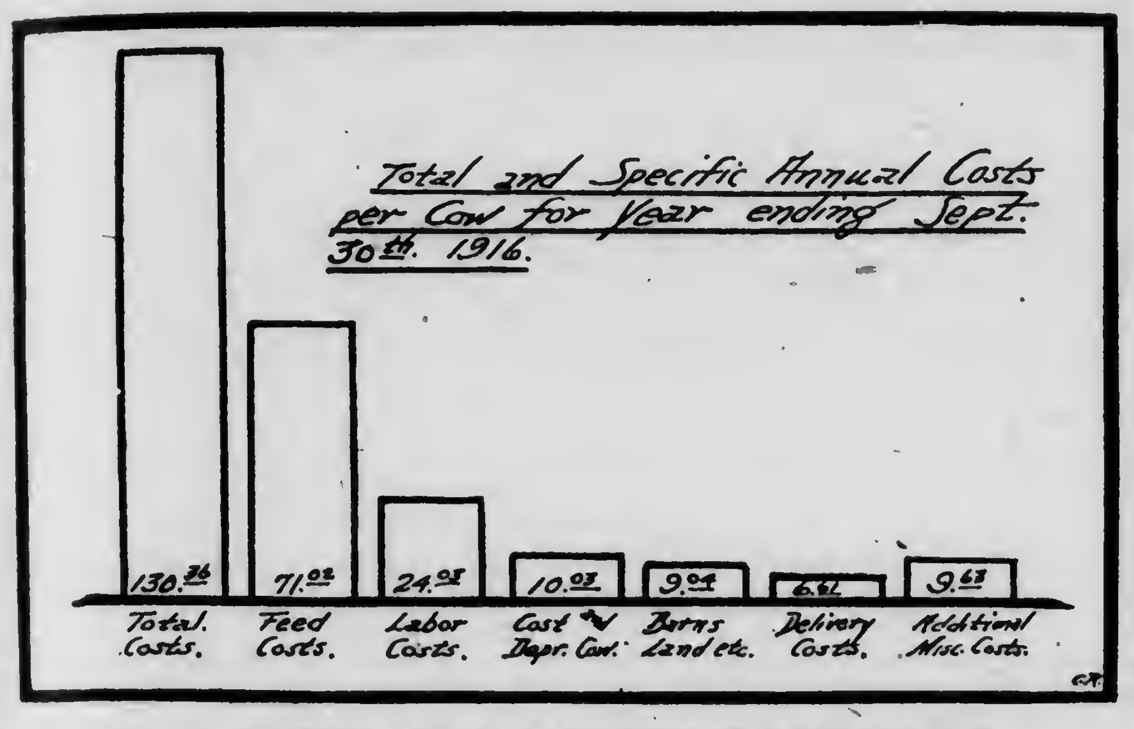


FIG. 1. SHOWING ANNUAL MAINTENANCE COSTS PER COW.

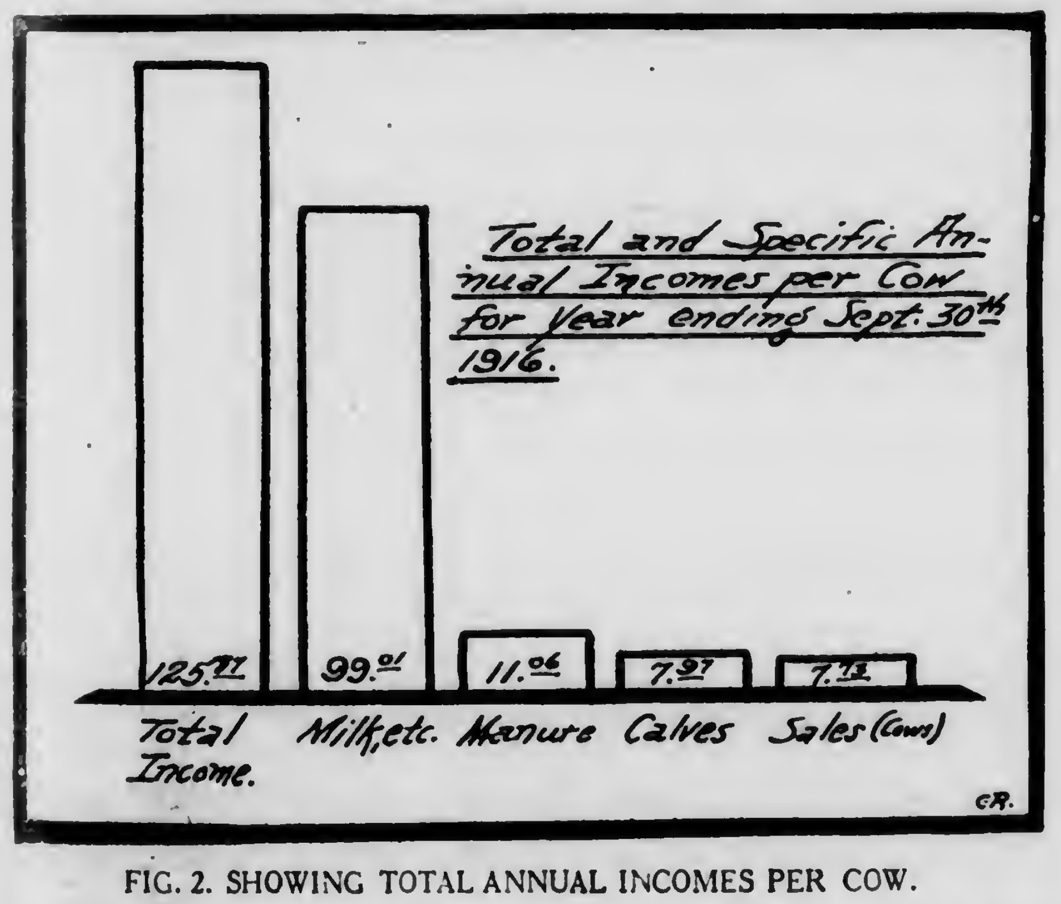
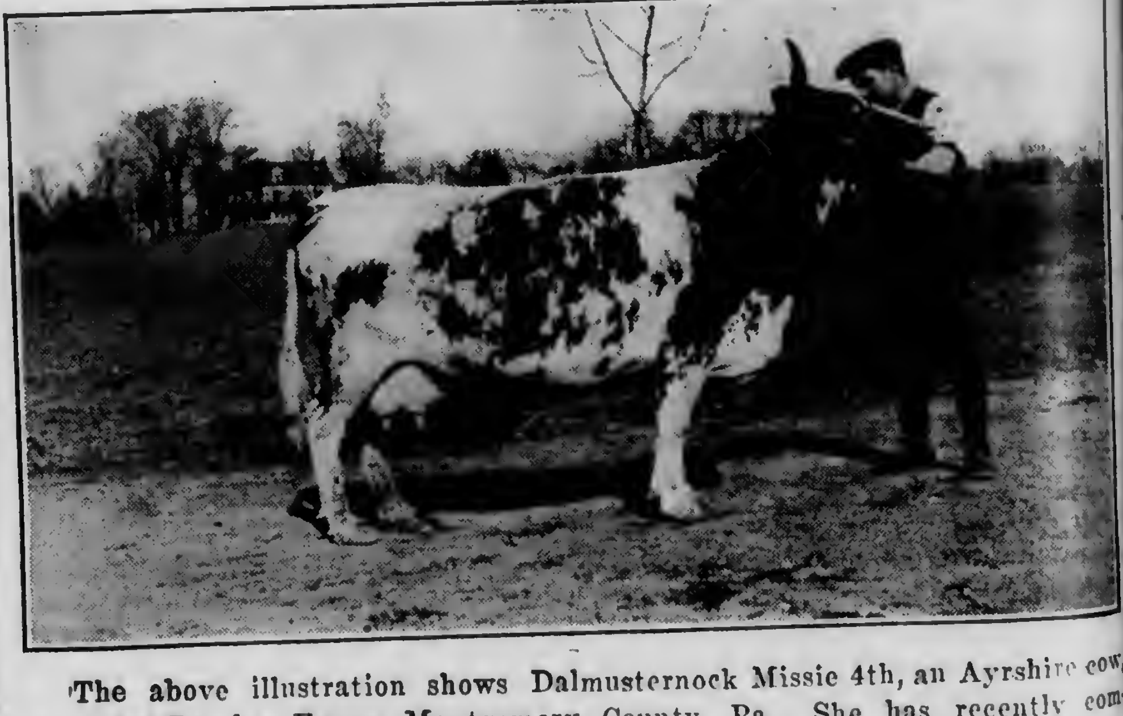


FIG. 2. SHOWING TOTAL ANNUAL INCOMES PER COW.



The above illustration shows Dalmusternock Missie 4th, an Ayrshire cow, owned by Barclay Farms, Montgomery County, Pa. She has recently completed a yearly record of 16,671 pounds milk and 591.91 pounds butterfat. Missie 4th already had to her credit two yearly records of 14,212 pounds milk, 509.01 pounds butterfat and 18,540 pounds milk and 685.71 pounds butterfat, respectively. The completion of her new record gives her a three-year cumulative record of 49,423 pounds milk, 1,786.63 pounds butterfat, an average for three years of 16,474 pounds milk and 562.21 pounds of fat.

INSPECT THE SILO BEFORE FILLING

Unnecessary delay and expense will be avoided if the silo and the machinery used in making silage are carefully inspected before filling is started. The silo should be examined for openings in the walls where air might enter and spoil the stored crop, and for rough places which might prevent proper settling of the corn. The hoops on stave silos should be tightened sufficiently to close all cracks, but they should not be tight enough to buckle the staves. The staves will absorb some moisture from the silage. Consequently the hoops should be released somewhat, a few days after the silo has been filled, to prevent the swelling of staves from buckling or breaking hoops.

The walls of masonry silos should be inspected for cracks, sand pockets and rough places. Some owners give the inside surface a thin coating of rich cement with a whitewash brush. This is not necessary unless the surface of the wall has become roughened. Metal silos frequently need fresh applications of especially prepared paints to prevent corroding. A careful inspection of the cutter, engine and corn binder previous to starting will save time.

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PHILADELPHIA, PA., SEPTEMBER 22, 1917.

MILK SUPPLY

While receipts of milk are not excessive in comparison with the demand, there are indications that preparations are being made in certain localities to increase production. Production of a stable supply is as important as with any other class of food products. But a heavy over-supply at this time will be a menace to the industry. The dairymen who have been in the business long enough to have an accurate measure of returns are not increasing their herds. They know that the cost of production leaves but little profit even with the better selling prices of the past year. If the supply is largely increased the selling price will either have to be reduced or the producers will have to shoulder the responsibility of caring for the surplus. Either burden will act as a quick check upon production in general, and either will cause a decline which will result in lasting injury to both producers and consumers.

* * *

MILK RATES SUSTAINED

The new milk freight rates ordered by the Inter-state Commerce Commission were protested by the milk dealers and shippers. Efforts to secure a modification of the new rates were disapproved and the announced rates will stand. At the time this announcement was made a similar schedule of rates was announced for points in the Middle West to become effective on or before December 1. It is evident that the Inter-state Commission will use the rates announced for the Philadelphia market as the basis for future rulings so long as conditions affecting shipping are at all comparable with the present. The outstanding feature of the new schedule is the lower rates to nearby shippers, and the increases in rate as distance of hauling increases. The effect will be to confine milk production to territory adjacent to cities and insure a higher standard of wholesomeness and freshness.

* * *

NITRATE AT COST

It will be remembered that the food administration law carries with it a provision giving the president the power to purchase nitrate of soda and sell it to farmers at cost. Ten million dollars were made available for this purpose. So far, no more has been made in this direction. Secretary Houston seems not to have favored the proposition, claiming that the price at which it could be secured would be prohibitive. It is reported that a government vessel was able to deliver one load of nitrate at Indian Head at a cost of less than $60 per ton, which is considerably less than private importers have been able to do.

Nitrogen is an absolute necessity in the production of all vegetable growth, and nitrate of soda is important because of its quick availability, making it extremely valuable for best production on certain types of soils and for early and rapid growing crops. No charge of favoritism or class legislation can be properly charged because of such service by the government, since the benefits are of national importance. Surely no one would protest against the government's importing nitrates, or manufacturing them either, for the purpose of making munitions, and the necessity and importance are equally as great for agricultural use.

Several granges have already petitioned the administration to exercise its privilege in this matter at once so that a supply may be available for next spring's use. We would advise that personal letters and resolutions be sent to the president urging him to act in the matter.

* * *

THEORIES ABOUT MEAT PRODUCTION

Officials and "experts" tell us that it is a military necessity that livestock on American farms be increased. They have a plan figured showing how it may easily be done by utilizing the pasturage and forage that annually goes to waste. Untilled land and fence rows, for instance, together with the weed crop on every farm, they say would furnish subsistance for many sheep. All this works out well in theory, but the practical man will at once think of many reasons why it would not work out to entire satisfaction in practice.

In the first place, practically all the waste land is unfenced and the labor and expense of enclosing it in most instances would be more than the value of the pasture. As for farm lands, the experts have for years been advising against pasturing them, and most farmers have been gradually removing the fences as they became worthless. Increase of the use of farm machinery has also tended to a reduction of farm fences. As to weeds and fence rows, a little thought should convince anyone that such a source of forage is worth little, since it is not practical to use it on account of crops even if it were of value. The most discouraging factor, however, and the one which has been the chief cause of the decline of cattle raising in the East is that of the marketing system. Since practically all slaughtering is done by a very few big plants, the man with a few cattle, situated miles away from a center, often has difficulty in finding a buyer since it is too far to drive them and he has too few for a carload. Add to this the fact that he has absolutely no voice in price-making and we can easily see why the average farmer is not enthusiastic about meat production.

We do not wish to be understood as opposing the increase of livestock raising, but there must be good, business reasons apparent to the farmer, showing how he can make it pay by receiving a fair price and a reasonable assurance of its continuation. Such conditions will go much farther in increasing the food supply than all the advice from "experts" that can be handed out.

* * *

"FARM WAR PROFITS"

Under this title the Journal of Commerce, New York, throws another fit because of the tax-free profits which it figures the farmers of this country are making. It deprecates the action of Congress in taxing the incomes and excess profits of "big business" with the intention of raising two and one-half billion dollars, and goes on to say:

> "There is an immense amount of profits that Congress declines to touch; it is distributed among too large a number of voters. With wheat at $2.20 the farm price is more than twice as high as it has been in any other year since the Civil War period except in 1916. . . . . the cost of raising wheat has not been particularly affected by the war, tho farm machinery and fertilizers are higher. The war profits to the farmer on wheat must be more than a dollar a bushel, for a year, say anywhere from three-quarters of a billion to a billion dollars, but no appreciable part of it will be taken by taxation. . . . . At present prices there is a war profit of $50 to $75 a bale on cotton. But this is sacred from the tax gatherer. . . . . The farmers as a class will pocket immense war profits, aided thereto by speculators, and will go on denouncing speculators as their natural enemies, and demanding that railroads and manufacturers be stripped of all unusual profits that the war throws in their way."

We quote the above because it is typical of the kind of editorial buncomb that is being circulated by influential journals which circulate among city business men and helps to form their opinions and direct their influence. What is the source of information which enables them to name the profits which farmers make? Are they not informed as to the effects of the prices of the past upon agriculture, which prices they now take as the basis of comparison? A little honest investigation would show them that the prices received by farmers from 1895 to 1915 are the direct cause of the decadence of agriculture and the impoverishment of wheat, meat and cotton growers.

* * *

FARM WASTE

Following is a quotation from a leading eastern daily paper. It enumerates the various items contributing to an ernormous waste total in this country. And it places practically all of this at the door of the farmers of the country. The quotation follows:

> "In this country we waste $40,000,000 a year in the careless handling of eggs.
>
> "We waste $500,000,000 annually in soil erosion—a loss that could be stopped by the farmers.
>
> "We lose $238,000,000 thru floods and freshets, and at least $100,000,000 of this could be prevented by proper drainage of farms.
>
> "Each year insects destroy crops valued at $659,000,000—and careful methods of farming would almost wipe out this terrible loss.
>
> "Preventable livestock diseases cost us another $100,000,000.
>
> "Rats, mice and other small mammals, which could be controlled if not exterminated if sensibly and constantly fought, destroy stock and crops worth $100,000,000.
>
> "Fruits and vegetables now wasted on farms could be canned at home at a total saving of at least $100,000,000.
>
> "Our annual bill for not taking the right care of farm implements amounts to $25,000,000.
>
> "Our loss thru shiftless, careless, wasteful handling of the apple and potato crops will add at least $10,000,000.
>
> "Authorities who have no wish to make false claims figure that the sum total of our neglect of fences, roads and farm buildings represents an annual loss of not less than $250,000,000.
>
> "To add these is a matter of simple arithmetic. It gives us a grand total of $1,943,000,000.
>
> "It will be noted that this tremendous waste, amounting to nearly $2,000,000,000, is almost wholly due to thriftless, careless methods on our farms."

It would be an easy matter to formulate a "reply" to this striking accusation against the farmers. Following the items enumerated, losses in soil erosion and thru floods and freshets are enormous. Some of them could be saved by practical and profitable planting, drainage, etc. These measures cost money, however, and many farmers have other and more pressing uses for the available money that would be needed to stop this loss. The wastes under this head are comparable with the waste of by-products from oil, gas and coke plants. They were recognized as wastes but they were not stopped until there was a commercial value placed on by-products that would pay the expense of saving them. The farmer can not be expected to pay the expenses of preventing all waste by erosion, floods, etc., until he is assured a profit on the money invested in such preventative measures.

The loss in damage from rats and mice does not all occur on the farm. These rodents work in city storage and warehouses just as they do in farm granaries and corn cribs. A large amount of fruit and vegetable food goes to waste on the farm, but if these were all canned how would the farmer dispose of them? In sale of canned products he would be competing with the commercial canneries, and he can not put up all of the fruits and vegetables that the market will not take and make the cost of canning. Must he add to the loss of producing it by taking on another loss in preserving it at a price above what it will bring him on the market? The same applies to the handling of the apple and potato crops. When the market pays less than the cost of growing potatoes, for example, and every bushel marketed means a loss, why should the farmer go to the added expense of digging them and hauling them to market?

If we wanted to press the matter we might enumerate city wastes. But a mere reply to false or exaggerated accusation serves no good purpose. Some of the above statements of loss are not greatly exaggerated. All of them present real problems to the farmers. We would like a discussion from readers telling how they meet these and other items of waste on the farm. Tell us what you are doing to prevent waste. Your suggestions may help others.

HARRISBURG NOTES

State Aid to Schools. — Early announcement is expected by state educational authorities regarding a plan for systematic state and federal aid for schools for instruction in agriculture. The state plan is now in the hands of the people at Washington for approval. As soon as accepted, steps will be taken to enlarge the activities in the line of special courses. Vocational schools in which agriculture is taught have increased materially in the last year, but the greatest difficulty has been in procuring suitable teachers and to get funds to assist districts where such instruction can be of most advantage. Most of these are rural districts where aid is essential. Under the plan proposed the aid for agricultural courses would be entirely separate from that for industrial courses and have nothing to do with the aid given to colleges. It would be primarily for agricultural instruction in the lower schools. Between what the state appropriated for this purpose at the recent session and what congress is voting, there should be enough to get the movement well launched. The state normal schools are giving more attention to agricultural matters and most of the colleges are taking it up.

The Draft and Farmers.—William T. Creasy, whose article on farmers and draft appeared in a recent number of the Pennsylvania Farmer, forcibly presented the situation in respect to farmers and farm labor in the Keystone State to the district appeal board for central Pennsylvania a few days ago. Mr. Creasy pointed out that Pennsylvania thru the enterprise of her own farmers has for years been forging ahead as an agricultural state, presenting an array of facts on production, and called attention to the tremendous efforts made by the agricultural class this year to meet the demands of the national government, the appeals of the state authorities and the urgings of the State Defense Commission to raise more foodstuffs. In spite of this condition he said there were calls upon able-bodied farmers engaged in raising food to enter military service. Pennsylvania farmers have never been lacking in patriotism, Mr. Creasy said, and the records prove it from 1775 to 1917, but a more liberal policy is required if the food supply is to be kept up. He also called attention to the fact that at the beginning of this year, because of industrial conditions, farm labor was only 64 percent of the normal and the percentage is now down around 25. The facts were sent to Washington.

Warns of Bugs.—State Zoologist Sanders last week called attention to the fact that with so many inexperienced persons tilling the soil, the multiplicity of war gardens and the lack of adequate labor there will be some lapses in care of ground, stalks and stubble which will facilitate large crops of bugs and pests next year. Mr. Sanders appeals for care in clearing land after this year's crops and precautions against pests. This year has been marked by huge crops of grasshoppers and other insects.

Big Drainage Plans.—Reports coming here indicate extensive plans for drainage of lands and that thousands of feet of tile will be used if it can be obtained at the right prices.

O'Neil's Policy. — The development of Highway Commissioner O'Neal's policy in the Highway department is being watched with interest. The contracts awarded by the commissioner since he took office have been few and while some of the prices have been high, it is contended by persons who have studied them, to have been warranted by special conditions. The bulk of the contracts awaiting action when Mr. O'Neal took office have been thrown out and new bids asked. The commissioner has also decided to build about forty bridges, a proposition on which the department was hesitating. He has started after toll roads and is about ready to take up the matter with Lancaster County, the home of the turnpike, and to get some boroughs to help along good roads. He did all this before the governor came back from Maine and whether he will succomb to the political influences that permeate Capitol Hill remains to be seen. Some people think O'Neal will fool the politicians.

Report on Milk.—The State Milk Commission is about to issue a report on the conditions encountered in the Pittsburgh district. The Public Service Commission has declined to order a change of a milk train schedule because of its effect upon life on the dairy farm. In this case, which came from Berks County, it was contended that the railroad had advanced the time of the train leaving Reading and that it meant getting up about 2 or 3 o'clock in the morning for the dairy farmers. The commission held that the time was about the same as the starting of other milk trains and that the good of the greater number was to be considered.

Bulletins by Numbers.—Several of the departments of the state government which have been lumbering along with bulletins on a monthly basis which did not comport either with the calendar or the seasons have arranged to issue them by numbers. This will be put into effect right away in some offices and the anomaly of April bulletins at peach-picking time be overcome. Incidentally more forethought in preparing matter for the state printer can be taken and the blue pencil used on some of the junk which has burdened the printer, cluttered the mails and amazed the public. It would be an easy matter to have advice suitable for farmers next March prepared between now and election time, while reports of meetings last winter unless filled with meaty stuff could be filed without printing.

The Cold Wave.—Reports of considerable damage to corn and buckwheat in northern counties, to beans and tomatoes in central and tobacco and beans in southern counties have come to the Capitol following the frosts of last week. Low lying farms were hard hit, reports indicate.

New Wheat Tests.—Some state tests of new varieties of wheat are under way and officials have also been busy gathering results of those privately made this year. This work is being undertaken in conjunction with the U. S. government and wheat from other states has been subjected to try-outs in various soils.

Report the Crooks.—The State Department of Agriculture has asked all imposed upon by tree agents to report them. Some efforts to sell alleged "transparent pitless plums" and other things have been reported here and state authorities would like to interview the persons trying it. Over 250 nurseries and thousands of agents have been licensed and are obeying the law, but some are up to old tricks.—Hamilton, Harrisburg, Sept. 17.

NEW YORK LETTER

Home Defense Orders.—The Governor has issued orders requiring men enlisted in the Home Defense Reserve of the state to wear their uniforms while attending all public ceremonies, including religious services. The uniform is similar to the army khaki, differing in shade somewhat, and in the insignia.

State Bakers Patriotic.—At a convention of the Master Bakers of the State held in New York a resolution was passed foregoing all profits in bread-making during the war, except enough to cover administration expenses and up-keep. Delivery costs are to be charged direct to the customer, and not to be included in overhead charges, so that a minimum price over the counter might be realized. They stated that if millers and jobbers in flour will co-operate, the public can get a 14-ounce loaf for less than ten cents.

Frost Damages.—Monday and Tuesday nights there was great fear of killing frosts in many up-state counties. In a few localities there was damage, but Tompkins, Cortland, Onondaga, Cayuga and neighboring counties, also the western counties, were only slightly affected. Corn, beans, squash and other crops are all as yet very immature, and a hard frost would work untold injury. Oat harvesting has progressed rapidly this week, with a few really good days.

No Poultry.—Syracuse's North Side market reports dressed poultry as not to be had. The long continued rush of fowls to market has begun to be felt. Potatoes brought $1.40 to $1.50; tomatoes, $1.50 a bushel and onions, $1.75 a bushel this week.

Motor Law Violations.—J. J. Curran, working for the state, is fining many violators of the motor vehicle law. This week he is operating in Syracuse and the State Fair grounds picking up persons "hacking" without license; commercial dealers using pleasure or dealers' licenses, etc.

State Spellers.—Forty-eight of the star spellers in as many counties of the state entered a contest, with 5,000 words chosen by experts, and a dictionary the limit, spelled for a $50-prize on Wednesday at the State Fair. Lester Lewis, a 14-year-old Schenectady boy, is now the champion speller of the state. Many boys and girls from last year's contest again led their counties this year, showing they were real spellers.

Open Fight with Governor. — The Governor's choice of Geo. W. Perkins as a food administrator for the state is defeated for the present in the Senate, by a vote of 25 to 18, when an adjournment was called until September 25. Nothing in the discussion charges lack of qualification in Mr. Perkins, and the state awaits the outcome with keen interest. Mr. Perkins has published an open letter to the leader of opposition to his appointment, Senator E. R. Brown, which states the facts of the latter's political maneuvers and actions against the interests of consumers generally. Thru a technical error the Governor's appointment may legally be brought to vote again when the Senate reconvenes.

State Fair Notes.—The weather was decidely unfavorable on Monday and Tuesday, being unseasonably cold. This hurt the attendance severely for those days. But the exhibits are the finest ever seen here in most classes, including the poultry and livestock exhibits. There were never so many farmers present before and all show very unusual interest in machinery exhibits. The best auto show ever seen on the grounds is now there. Wednesday's crowd was above the average for the past ten years for that day. The new track is in use, despite fears that it could not be put into condition, and is making some fine records. The two new subways under the track open up the center-field for parking, facilitating the handling of the vast numbers of autos very acceptably. The army bakery and the large number of military features connected with the great camp were centers of interest.—F.

NEW JERSEY FARM NOTES

Waste Land. — The State Board of Commerce and Navigation in conjunction with the State Board of Taxes and Assessment is conducting a field canvass to ascertain the amount of unused farm lands in the state, with a view to having such lands developed and made available for the growing of food products. It has been estimated by the State Department of Agriculture that there are 1,000,000 acres of land in the state lying idle, but just how much of this is tillable will have to be determined. An effort is being made to increase the amount of lime available for farm lands in the future. Means are also being considered for increasing the supply of potash, a part of the campaign being to induce farmers and others to burn more cord wood and less coal. Cordwood ashes contain about 10 percent of potash.

Trenton Fair.—The Trenton Inter-State Fair will open next Monday and continue thruout the week. As usual, one of the features will be the live stock exhibit. The fair management announces that Henry McNair, of the firm of Ellsworth & McNair, of the Union Stock Yards, Chicago, has offered a silver cup valued at $50 for the best draft horses bred in New Jersey and exhibited at the Trenton Fair. The new coliseum, which will be an innovation for the exhibitors of live stock in the east, is completed and will make it possible to carry out the judging program according to schedule regardless of weather conditions. The Philadelphia Wool and Textile Company has offered to send to the Trenton Fair for exhibition several hundred head of breeding ewes shipped from the west. The idea is to increase interest in sheep production, which is necessary to offset the alarming shortage of wool and mutton products. The dairy show is expected to be up to the usual high standard. Four herds of Milking Shorthorns have already been entered in the competition. Special stress is being laid on the preparations for the poultry exhibition. A feature in Exhibition Building No. 3 will be the display of live fish and game, arranged under the auspices of the State Board of Fish and Game Commissioners.

Potato Storage. — Herbert Hoover, Food Administrator, has advised the State Department of Agriculture that there will be no interference with plans of the potato dealers to store their usual winter supplies. There was a fear that the 30-day limit for the storage of foodstuffs, which was recently set up to prevent hoarding of supplies to boost prices, would affect the potato growers, who had used expensive fertilizer and spent considerable money to harvest their crops. Secretary Agee, of the Department of Agriculture, sent this wire to Mr. Hoover: "Dealers in potatoes are afraid to buy and store thier usual winter supply thru fear of interference later by the Food Administration and this is robbing the producer of his usual market for winter stock. If assurance cannot be given many producers will lose money on their crops." In reply Hoover said: "It is the policy not to interfere with normal trade and customs. We want and expect dealers and shippers to store in order to supply their trade. Only aim being eliminate such specualtors as perform no service in the functions of distributing potatoes and other products."

Peach Crop.—Anent the peach yield, the Department of Agriculture says that the greatest crop of peaches South Jersey ever produced is now nearly sold. It is reported that on three days of the previous week 35 carloads left the state each day.—L.

FARM MEETING CALENDAR

Inter-State Fair, Trenton, N. J., September 24-28.

Dairy Cattle Congress, Waterloo, Ia., October 1-7.

Eastern States Exposition, Springfield, Mass., October 12-20.

National Dairy Show, Columbus, O., October 18-27.

American Pomological Society, Boston, Mass., October 31-November 4.

Short Courses in Agriculture at Rutgers College, New Brunswick, N. J., open Nov. 20.

International Live Stock Exposition, Chicago, Ill., December 1-8.

Pennsylvania State Grange, Williamsport, Pa., December 11-13.

FAIRS NEXT WEEK

County	Town	Date
	Pennsylvania	
Bradford	Athens	Sept.17-22
Cameron	Emporium	Sept.18-20
Mercer	Mercer	Sept.18-20
Armstrong	Dayton	Sept.18-21
Clearfield	Clearfield	Sept.18-21
Luzerne	Dallas	Sept.18-21
Somerset	Meyersdale	Sept.18-21
Tioga	Mansfield	Sept.18-21
York	Hanover	Sept.18-21
Berks	Reading	Sept.18-22
	New York	
Otsego	Oneonta	Sept.17-21
Madison	Brookfield	Sept.18-20
Suffolk	Riverhead	Sept.18-21
Albany	Altamont	Sept.18-21
Oneida	Boonville	Sept.18-21
Allegany	Angelica	Sept.18-21
Franklin	Malone	Sept.18-21
Genesee	Batavia	Sept.18-21
Rockland	New City	Sept.19-22
Tompkins	Ithaca	Sept.19-22
Ontario	Canadaigua	Sept.20-22
	New Jersey	
Mercer	Trenton	Sept.24-28
	Maryland	
Cumberland	Cumberland	Sept.25-28

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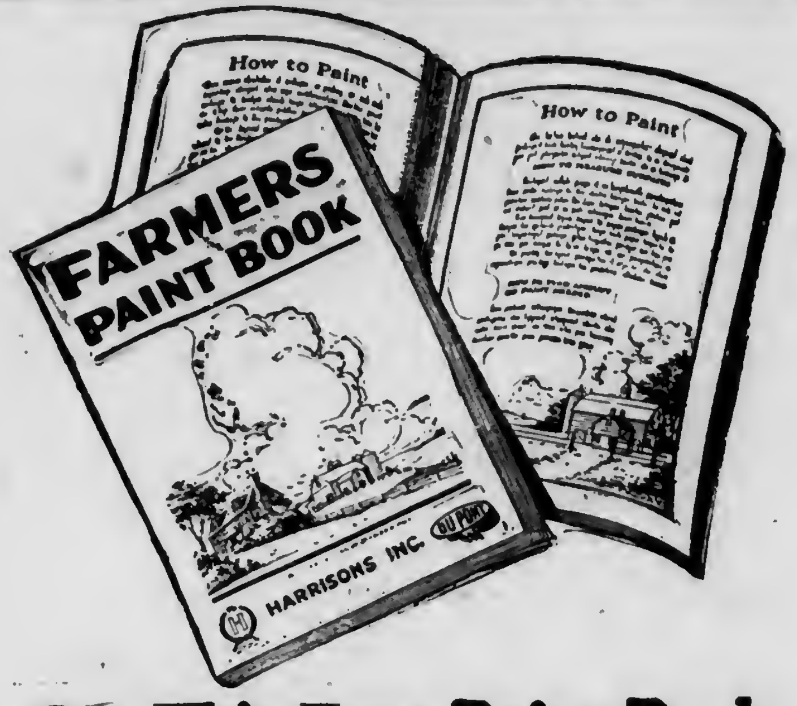

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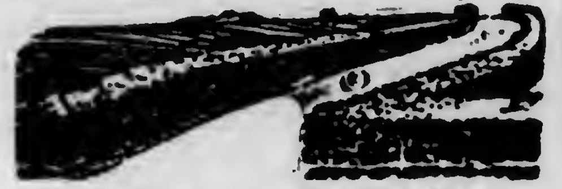

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How to Make Apple Cider Vinegar

A Product Easily Made on the Farm

The season for making cider vinegar is approaching. See that your press is in good order. If you have no press, by all means order it in plenty of time to assure its being on hand when the apples are ready. A government bulletin gives the following excellent instruction for making high-class cider vinegar:

When possible, select such lots of apples as contain the most sugar. Do not use unripe fruit. The apples should be clean. All rotten fruit, moldy grass, sticks, and leaves should be removed. Wash the dirty apples but do not wash the clean ones, as you may wash away too much of the yeast.

Making the Cider

The grinder and press should be clean; if not, make it so. Grind the apples as fine as possible and press slowly but firmly. Do not add water to the pomace with a view of obtaining a "second pressing," as such second pressing does not contain enough sugar to make good vinegar. Allow the freshly pressed cider to stand for one or two days in order that the sediment may settle out. When a large quantity of cider is made at one time it is a good plan to have a large receptacle into which the cider may be run for settling. On a small scale barrels may be used for the purpose. Keep the cider covered while settling. As soon as the cider is clear it is ready for the fermenting barrels.

Alcoholic Fermentation

Select, if possible, clean whisky or grain alcohol barrels; these will need but little cleaning, as the alcohol they may hold does not interfere. All other barrels should be thoroly cleaned with warm water and rinsed with scalding hot water. Use plenty of water. Do not sulphur them. Do not use barrels which have contained paint, oils, turpentine, wood or denatured alcohol, as it is impossible to clean them.

Place the clean barrels in the cellar or other places selected for the purpose and fill about three-quarters full of the settled cider. Do not add sugar, water, or any other substance. Do not add "mother" or vinegar at this time.

The bungholes should not be closed, but should be loosely covered with a double thickness of cheese cloth tacked in place.

If the cider is made during a period of warm fall weather there will be no difficulty experienced by the failure of the fermentation to start promptly. On the other hand, if the cider is cold at the time it is placed in the barrels to ferment, a starter should be added to start the fermentation.

The starter may be made by withdrawing about three gallons of the cider from the barrel and warming this portion to a temperature of 85 to 90 degrees F., and then keeping it in a warm room, protected from dust and dirt, until active fermentation has been going on for two or three days, at the end of which time it is returned to the barrel and mixed with the rest of the cider by shaking.

If there are any barrels of cider, made earlier in the season, in which fermentation started promptly and which are still in active fermentation, five gallons from one of these barrels may be used as a starter.

As soon as fermentation has started the barrels will need no further attention except to see that they do not get too cold until fermentation is completed. This will be in about six months.

Acetic Fermentation

When the alcoholic fermentation is completed, which may be told by the fact that the bubbles of gas are no longer given off (told by placing the ear to the bunghole; the liquid being still), the now hard cider should be carefully drawn off into clean barrels so as not to disturb the sediment. Fill the barrels only about three-quarters full. Add to each barrel from one to two gallons of good finished vinegar containing "mother" and keep as near a temperature of 65 to 75 degrees F. as is possible.

Block the barrels so that they will remain perfectly still. The bungholes should be up and open, but covered with a small piece of well-painted screen to keep out the flies.

Allow the barrels to remain until 4.5 to 5 percent of acid is produced. This will require from 12 to 18 months.

Aging

Draw off the vinegar and place in barrels made sweet and clean by a thoro washing and scalding. Fill the barrels full, drive in the bung, and place the barrels in a cool cellar for two or three months to age.

The vinegar is then ready for use or for the market.

Causes of Failure

The principal causes of failure are summed in the following don'ts:

Don't use green apples; they are deficient in sugar.

Don't use dirty or decayed apples; they contain foreign ferments.

Don't add water; this constitutes adulteration.

Don't use any but perfectly clean barrels.

Don't add vinegar or "mother" until the alcoholic fermentation is complete; vinegar or "mother" interferes with alcoholic fermentation.

Don't try to conduct the alcoholic fermentation below 50 degrees F.

Don't let the temperature of the cider go below 50 degrees F. until the alcoholic fermentation is complete.

Don't fill barrels more than three-quarters full.

Don't sell vinegar without labeling it.

Don't forget that cleanliness is essential to success.

Don't allow vinegar to come in contact with any metal.

While the directions here given may seem rather lengthy, they are sure to produce a vinegar of standard strength and of good quality. It is true that some of the details of the method may be disregarded, but the quality of the product may suffer as a result.

STARTING ASPARAGUS

My friend Hulsart tries to make merry at my expense over the asparagus question with the calm assurance of a Jerseyman who considers no method of value that is not practiced in Jersey. He offers sundry objections to the method of starting a patch from seed but does not say that he has ever tried it. As to the method on a large scale I will say that I have tried it to the extent of 10,000 transplanted roots compared with an equal number of undisturbed roots left in the nursery rows, and the superior size of the shoots from the undisturbed and somewhat crowded rows was what set me to thinking. That was many years ago, the second year after Conover's Colossal was introduced, and I grew a good many thousands to reap some of the profit as they were then selling for $10 a thousand.

Mr. Hulsart makes a great deal of fun at the idea of sowing the seed 15 inches under ground. I never suggested anything of the sort, for when the seed are sown the furrow will not be over five inches deep, and the crab grass will give no more trouble than it will with the seed sown for nursery purposes. And with all the deep furrows it costs but a fraction of the cost of roots to start a patch direct from seed. Neither Prof. Norton nor Mr. Hulsart has ever tried the method I have suggested, but both do not like it and give no reason why a root dug up and most of the feeding roots hairs and rootlets necessarily destroyed, can be expected to grow as well as a root undisturbed.

Let Mr. Hulsart transplant his one year roots and leave some in his nursery undisturbed and then note the difference in the size of the shoots coming the first spring from the transplanted and the unmoved roots. I have cut fairly good shoots from the plants left in my nursery the second spring after sowing the seed, and the shoots on the transplanted roots at the same time were no larger than a knitting needle. But I have no roots nor seed to sell.—W. F. Massey.

THE POSSIBILITIES OF A ROADSIDE MARKET

Producer and Consumer Profit

"The roadside market will benefit both producer and consumer," states Professor C. G. Woodbury, Chief in Horticulture at Purdue University. It will tend to increase the consumption of these healthful foods, at the same time reducing the price to the consumer. Much waste will thus be prevented, while the farmer will secure a reasonable profit for his labor. While thus benefitting every American, more staple foods will also be released for needy Europe.

The simplest plan which will interest the public in roadside markets requires a bulletin board in front of the farm home. This bulletin may take the form of a blackboard or poster, on which should be neatly printed a list of the articles for sale. Sales will be increased by displaying a small basket of fruit or vegetables. Make the price as well as the product attractive.

A Market Thruout the Summer

Some farmers will have a succession of fruits and vegetables in sufficient quantity to make the roadside market a continuous source of profit during the growing season.

A market of this kind should be held at a specified place, on specified days of the week. A cool, shaded spot on a well-travelled road, kept comparatively free from dust, will attract motorists. Produce for sale may be displayed on a wagon, on portable tables, or upon a well-kept lawn. Neatness and attractiveness about the stand are essential in securing automobile trade.

When one farmer is unable to supply enough produce for such a market, a group of farmers can agree to establish a regular stand. Their wives and children can aid greatly in putting up an attractive display of well-graded products.

Where the products from a group of farmers in a community are marketed at a single stand, the grading and packing problem should gradually take care of itself. The kind of package which is popular with the trade will be adopted; the sales system which gets business will be imitated.

How to Establish Trade

The value of honesty in establishing permanent trade relations cannot be over-emphasized. The bottom of the container shoud have exactly as good produce as the top. All goods offered for sale should be clean, fresh and sound. They should also be graded to eliminate the small, unattractive specimens. Retail merchants of long experience state that when graded and ungraded produce is displayed in their stores for sale, the graded stock always sells more readily, regardless of the difference in price.

The autoist who patronizes the roadside market also buys from the retail merchants. Such a customer demands high quality produce and will compare the roadside market with the retail store in this respect. And since the stand at the side of the road has a much lower running expense, the patron will expect a lower selling price.

How to Advertise

The amount of produce available for sale will determine how extensively to advertise. Every stand can afford a neatly printed sign above the roadside location. Get the family or the community artist to make one. This sign should indicate the farm or community name for the market, and the hours and days when the market is open. This is essential with transient automobile trade. Since the produce offered for sale will change as the season advances, a placard beside each variety of product for sale gives better results than conventional advertising on a permanent sign. Newspapers furnish valuable publicity, but the final publicity comes from the quality of service the farmer gives his patrons, and this determines the final success or failure of the roadside market.

TREATED BY THE TREE SURGEON.

Fancy Packing Pays

Fancy packing always pays with prospective automobile trade. Where wrapping paper is required it is not economy to use newspapers. Good wrapping paper has a lower initial cost and gives a much better impression.

Some markets have made a success of the "special basket". Such a basket contains a variety of fruits or vegetables which sell at 25, 50, 75 cents or $1. Tags are attached which show plainly the name and post office address of the producer. The buyer from some distant point is thereby reminded of the place where the produce was obtained, may be urged to duplicate the order and even to order in advance by mail.

An acre of good alfalfa furnishes twice as much protein as a ton of bran, four times as much as a ton of corn meal, and nine times as much as an acre of timothy.

—

New York State ranks third in bean production; Michigan is first and California second.

Laying drain tile.
Snag-Proof Short Boot, — A tough long wearer

LAMBERTVILLE RUBBER FOOTWEAR

THOSE jobs that you don't like—jobs that mean standing in water and mud all day long—are welcomed by wearers of Lambertville Rubber Footwear. The harder the wear the better for this good footwear, because that gives it a chance to show its superiority. Lambertville Rubber Footwear is made so sturdy, long wearing and gives you so much satisfaction, that you'll keep right on wearing it. Besides being wear-proof, Lambertville Rubber Footwear is comfortable and sheds water perfectly.

There's a Lambertville Brand That Fits Every Purpose and Pocketbook

Among the five Lambertville brands you will find one that just suits your needs and at the right price. Here are the different brands:

Snag-Proof—All rubber and duck. Seven thicknesses of rubber *ground* into the heavy duck.

Redskin—Made of long wearing red rubber.

Lamco—Pure gum reinforced with seven stout ribs to prevent cracking or breaking.

L Brand—Duck vamp, long-service footwear at moderate price.

White—Pure white rubber in Snagproof quality—steam cured in vacuum, designed for extreme severe service.

You should find Lambertville Footwear for sale at the best store in your locality. You can be sure you are getting Lambertvilles by the Green Oval Label on every boot, arctic and shoe. Not all stores sell the Lambertville line because we limit the sale to merchants who value a satisfied customer above a quick profit. If you do not find a dealer near you, write us direct and we will see that you are supplied.

LAMBERTVILLE RUBBER COMPANY, Lambertville, N. J.

TOWER'S FISH BRAND REFLEX SLICKER

Waterproof Absolutely.

It's loose fit and "good feel" put you at ease on any job that turns up.

SATISFACTION GUARANTEED

A. J. TOWER CO. BOSTON.

TOWER'S FISH BRAND

Mr. Celery Grower

Increase the quality and quantity of your celery and save time, labor and money by using the

Areanddee Celery Bleacher

Strong, Stiff, Odorless, Tasteless, Light Weight, Waterproof Paper. It is impervious to water and moisture and especially prepared to stand extremes of heat and cold. Sold in rolls 10 and 12 inches wide, containing 100 running feet. Easy to handle. *Can be used over and over again.* Requires less labor than board.

Write for prices and samples to

THE RUSSELLOID CO., Dept. P, 31 N. 2nd St., Harrisburg, Pa.

Consult Your Dealer Now

About Lime & Fertilizer Supplies for Next Year's Crops.

BUY WARNER'S

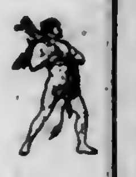
"LIMOID"

(Pure "Cedar Hollow" Hydrated Lime)

And Take Delivery Now It Will Pay to be Forehanded.

"Limoid" can be safely stored until needed.

CHARLES WARNER COMPANY, Wilm'n., Del., Phila., Pa., N. Y. City



Five Years After

Five years ago these two orchards were planted. At that time there was no difference between them—except that the trees on the left were planted in holes blasted with Hercules Dynamite while the trees on the right were planted in holes dug with a spade.

And today—what a difference. The orchard planted with the aid of Hercules Dynamite is producing a full crop of splendid fruit—its second crop by the way. The other trees are bearing for the first time and producing inferior fruit at that. It pays to plant with

HERCULES DYNAMITE

The difference between the growth and yield of a tree planted in a dynamited hole and one planted in a spade dug hole is almost unbelievable.

During the first year alone the development of the former will be almost twice that of the latter. When the trees begin to bear, the yield of the one which has received the benefits of dynamite is much greater than that of the other. Its fruit is larger and of a better flavor.

Whenever you plant trees always use Hercules Dynamite.

Write today for the 64 page book, "Progressive Cultivation". It tells how to plant trees with Hercules Dynamite, also many other uses for dynamite on the farm. It is sent free on request. The coupon below is ready for your name and address.

HERCULES POWDER CO.
30 W. 11th Street
Wilmington Delaware

Hercules Powder Company, 30 W. 11th Street, Wilmington, Delaware

Gentlemen:—Please send me a copy of "Progressive Cultivation." I am interested in dynamite for ....

Name ....

Address ....

ABSORBINE STOPS LAMENESS from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar trouble and gets horse going sound. It acts mildly but quickly and good results are lasting. Does not blister or remove the hair and horse can be worked. Page 17 in pamphlet with each bottle tells how. $2.00 a bottle delivered. Horse Book 9 M free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; heals Sores. Allays Pain. Will tell you more if you write. $1 and $2 a bottle at dealers or delivered. Liberal trial bottle for 10c stamps. W. F. YOUNG, P.D.F., 154 Temple St., Springfield, Mass.

TANKAGE
For Feeding Purposes
ELLWOOD ROBERTS CO.
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MINERAL HEAVE COMPOUND In use over 50 years
Booklet Free
$3 Package guaranteed to give satisfaction or money back. $1 Package sufficient for ordinary cases. MINERAL HEAVE REMEDY CO., 408 Fourth Ave., Pittsburg, Pa.

HAY
W. D. POWER & CO. 601 W. 33 St. New York are the largest handlers of commission hay in greater New York; if you have hay to dispose of communicate with them.
HAY

RAISE POULTRY Big money this year. 160 page book, "Two Years with Poultry," (price 50c); "Poultry Tribune," best poultry paper of best poultry section of U. S., established 24 years (75c per year). Both for $1. Write today. POULTRY TRIBUNE CO., Dept. H. Aurora, Ill.

HAY Ship To The Old Reliable House **Daniel McCaffrey's Sons** 623-625 Wabash Bldg., Pittsburgh, Pa.

WANTED Ambitious man. Big opportunity to build bank account. Experience unnecessary. Write today or information. Allen Nursery Co., Rochester, N. Y.

With this Simplex Ditcher-Terracer Works in any soil, clay or gumbo. Digs V-shaped ditch down to 4 ft. Practically all steel. Reversible. Equal to 100 men. Pays for itself in a day.
Sent on 10 Days' Trial
Ditches, Terraces, Builds Levees, Levels Bumps, Fills Gullies, Grades Roads, Back Fills, Cleans out old ditches at low cost. Simplex Farm-Ditcher Co., Inc., Box 5 Owensboro, Ky.
Write for Ditching book and money back guaranty

New Farm Catalogue, Just Out!

321 Money-making farms, throughout a dozen states, described in detail with directions to go and see them. Tools, machinery, live-stock, hay, grain, corn, beans, potatoes, apples and vegetables included with many to settle estates quickly. On page 8 read about 300 acres, 10 room house, 100 ft. barn and silo with pr. horses, 6 cows, equipment and crops for $2500 for all. Less than half down. On page 26 is 136 acres, cream sold at door and skim milk fed hogs, valuable lot wood and timber, 2-story, 9-room house, good cellar barn, large poultry house. If taken soon 14 cows, pr. horses, poultry, wagons, tools, cream separator, potatoes, apples; 50 tons hay, stove wood, grain and vegetables, all included for $4400. A dandy home farm on page 19 of 40 acres for $1500 is on main road, near creamery, 11 room house, telephone, basement barn, pr. horses, 5 cows, poultry, tools and crops all included. $1500 takes everything. Write today for your free copy of this big new Catalog of live farm bargains. E. A. STROUT FARM AGENCY, Dept. 1765, Land Title Building, Philadelphia, Pa.

BUY Cotton Seed Meal Prices have hit bottom. Book for fall shipments. Ask for car lot prices. **NOW**
J. E Bartlett Co., Jackson, Mich. Special low prices on pig middlings.

VIRGINIA FARMS
Fifty page illustrated catalogue free, describing bluegrass, alfalfa, stock, dairying and grain farms; also Colonial homes, and water front properties in best section of Virginia. Fertile lands, prices right. Established in 1895. L. M. Allison Co., Remington, Va.

Tractor Truck--For Sale
Knox-Springfield Tractor Truck—3 wheel—4 cylinder—solid tires. Will pull 10 tons. Suitable for farm or town work. Exceptionally low price. White & Bro., Inc., Richmond and Hedley Sts., Philadelphia.

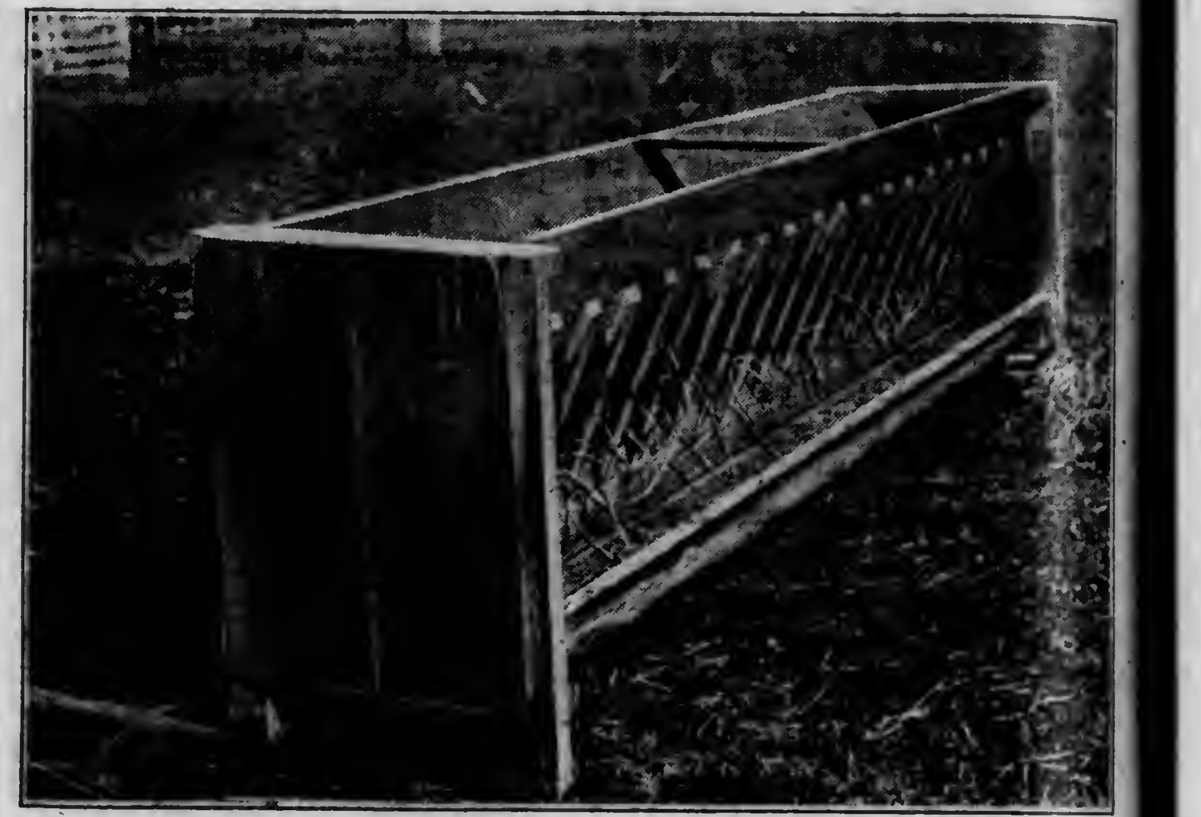
Russian Pitkus Seed Rye This year's crops. Supply limited. Big yielder, grain and straw. Sow until freezing weather. $2.30 per bu. CLOVERDALE FARM, Charlotte, N.Y.

Please mention Pennsylvania Farmer when writing to advertisers

Live Stock

AN APPEAL FOR MORE HOGS

The decrease in the number of hogs is due to heavy marketing on account of the highest prices ever paid for hogs in the United States. At the close of the past year we were told that hogs suitable for breeding purposes were not being marketed to any serious extent. This may have been true at that time but we now learn that there is an official shortage of brood sows. This shortage is credited at about three per cent. The very high prices paid for hogs is a big inducement to feeders to market sows, and the advance in the price of corn is another proposition to make them cut loose. The war is causing a steady increase in the export trade and the chances are that before long we may be paying 18 or 20 cents for pork. Many farmers, because of the high prices paid for hogs and the lack of sufficient feed, have sold hogs that otherwise would have been retained in the breeding herd. It is a serious matter, indeed, especially when we are at war, that the stocks are showing a tendency to decrease rather than increase.



GOOD COMBINATION HAY RACK AND FEED TROUGH. PREVENTS HAY AND CHAFF ENTERING THE WOOL.

Fortunately a sow with good care and feeding can raise two litters a year, and there is no reason why this can not be done if the sow is properly handled. A sow bred by May 15 will farrow about September 3. The pigs should nurse six or eight weeks. The sow can then be bred during the month of November and she will farrow during the first part of March. It is true that farmers in the southern states are better fitted for raising two litters a year than farmers located in sections where winters are more severe. Farmers in Pennsylvania and other eastern states have for many years disputed the question of fall litters. There are, however, many farmers in this section that have profited by raising fall litters.

If the sows are bred at the proper time and the pigs arrive in September they will be of good size before the winter season.

Rye sown in the fall, if it is planted early enough, will afford fine grazing for the sow and her pigs up to frost time. Green feed at this period of the year will help the little pigs along so much faster and the expense of raising these pigs will be lessened very materially. Even tho the cost of producing a fall litter of pigs exceeds the cost of producing a spring litter, the increasing price and demand for pork products certainly will offset the difference in cost of production. What this country needs is more hogs and the quicker the better.

There is, however, another method that may be followed by farmers who are engaged solely in the production of market hogs, and not breeding stock. How about breeding the sows before they are eight or nine months old? Pick out the largest and best developed gilts, ranging from six months and up, and breed them for fall litters. Careful feeding and management is necessary after they have been bred and the sows will repay you well for the trouble.

The cry is for more hogs. The burden of producing these hogs now falls upon those farmers who have been fortunate enough not to have depleted their breeding stock and who by using good judgment and sound principles in farm management are ahead in the hog business. The farmer who makes money out of hogs is the one who has hogs to sell when prices are high, whose farm is never over-stocked, nor yet entirely depleted of its supply. My advice to those farmers who have been attracted by the hog business because of the increasing price and demand, is not to plunge but be conservative. The conservative farmer is in the business at all times but never to such an extent as to be seriously damaged when the market goes wrong.—F.

BRITISH MEAT PRICES

The following letter, received by John Clay from his brother, A. T. Clay, Edinburgh, Scotland, appeared in the August 9 issue of the Livestock Report and throws light on the present meat market in the British Isles. For convenience the British values quoted by Mr. Clay have been reduced to their American equivalent. The letter reads:

"The government here, as you know, has been for some time restricting the price of food stuffs and is contemplating doing the same with meat. The only result so far seems to have been to make meat go up so high that ordinary people can hardly buy it. I understand an order will shortly be issued commandeering so many cattle in each district per week or per month. I have just had a talk with my butcher who tells me that he bought bullocks in 1914 at $106 and the same class of bullocks he bought this week cost him $330. In 1914 sheep were costing him $12 and today they are costing his $36. In 1914 beef was $9.60 per hundred weight (112 pounds). Today it is selling freely at $26.40. Roast beef here today is selling at 44 cents per pound or over it, and mutton just about the same. Chilled meat coming from America is being sold to

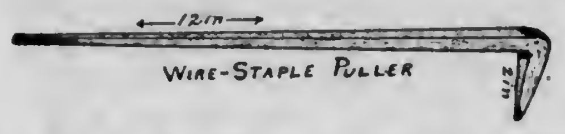
the public at about 30 cents per pound."

The several United States Shorthorn breeders who have imported Shorthorns from the British Isles this past season were obliged to turn back all animals that in the judgment of the British authorities had been purchased too close to the beef value, a ruling having been put into force prohibiting the exportation of meat animals unless there existed a decisive margin between the selling price and the beef value. A number of purebred herds have been disposed of by their owners for beef purposes, as the present values for killing purposes seemed sufficiently attractive.

It seems reasonable to assume, in view of the condition prevailing in Britain and which can scarcely fail to be emphasized in this country, that the producer of beef cattle has every encouragement to continue and expand his operations. The use of the registered sire will have the effect of increasing the number of pounds per head and shorten the period required for development. These are items that the cattle grower is obliged to consider in view of the increasing cost of maintenance.

REMOVING WIRE FENCES

The accompanying drawing of a wire staple puller and description of a post puller describe conveniences in taking up wire fences which are very helpful, especially if one has much of it, as we do. We have to fence our river flats during the summer and then take up the fence every fall on account of the river overflowing and washing the fences away or tangling them full of flood trash.



The staple puller is about 12 inches long with the hook end two inches long on the inside. To use, put the point of the puller just above the staple and hit it with the hammer on the top, driving the point into the wood and between the prongs of the staple; then raise the handle of the staple puller, same as you would pull out a nail with a claw hammer. In this way one can remove staples from the post very easily and quickly.

The post puller is two old wagon wheels with the axle shortened (or not as you prefer) and a good straight timber or good heavy pole will answer all right, and for temporary use it can be firmly fastened to the axle by winding with a chain or rope, tho it is better to bolt it fast to a block under the axle, the bolts going two on each side of axle. The long end gives plenty of purchase to lift the post from the ground by raising the long end of timber upright in the air and one man holding it there while another winds the chain on the short end tightly around the post close to the ground, striking the post a blow or two with a mallet to loosen it a little in the ground before attempting to pull it. After the chain is securely fastened to the post all that is needed is to pull the long end of the cross pole or timber back to the ground. The short end should just touch the ground when the long end is quite high in the air. The wheels should be run up close, one on either side of the post to be pulled. One man can pull posts alone this way but two can work much faster. In taking up fences in the fall, my husband removes the staples from one wire at a time, then rolls it on the reel before removing the next wire. In that way the wires do not get tangled up. After removing the wires the posts are pulled and then taken on the team and wagon as he drives along, also gathering the reels of wire, then they are stored out of reach of the high water until needed the next spring.

A claw hammer is very useful to hold the wire in place when building a barbed wire fence, as you can hold the wire firmly in place with the claws of the hammer, pulling it up snug and holding it while the staples are being driven with another hammer. — Mrs. Cora Hamilton, N. Y.

SCOURS IN COLTS

The colt is the work horse of tomorrow and the care he receives during his first summer determines to a large degree his efficiency when mature. It is during the first summer that the colt is most subject to scours. This disease can easily be checked if treated immediately, but if allowed to run its course it may prove serious and even fatal.

The colt should never be allowed to suck while the mare is warm and sweaty, as the milk at this time is likely to cause scours. If the mare has gone for some time without suckling her colt she should be partially milked by hand before the colt is allowed to feed. Overheating or excitement on the part of the mare is likely to cause digestive disorders in the colt and anything that interferes with his normal growth at this time detracts from his size at maturity.

Don't take the colt to the field and wear him out following his mother, but keep him in the barn in a well-ventilated box stall that has been darkened to protect him from the flies. Feed him liberally and in case he does get the scours cut his milk and feed in half and give him a two-ounce dose of castor oil, followed by a teaspoonful twice daily of a mixture of one part salol and two parts subnitrate of bismuth.—C. W. McCampbell, in Kansas Circular.

GOOD WORD FOR THE DOG

We see a great many complaints about the farm dog. I want to say a word for his good qualities. Because a few dogs that are not cared for at home kill sheep is not sufficient reason to condemn all dogs. Feed a dog well and give him a comfortable bed at home and he will not stray away or get into trouble killing sheep.

I have a shepherd dog that does all the driving of cattle and keeps the hens out of the garden and from doing damage about the place. I figure that my dog is worth $100 to me. And I feel that I have just as good a right to keep my dog as my neighbors have to keep sheep. I pay taxes on my dog, and give him a good home and keep him out of mischief.

Not all sheep that die are killed by dogs. I was called one time to appraise the damage reported to have been done by dogs. We tramped over about a mile of brush and log pasture and finally found one old sheep dead and without any marks on her. I am of the opinion that she simply laid down and died. We did not allow any damage on her. I used to keep sheep, having over a hundred at one time. I had them raided by dogs one night and lost over $125 worth of sheep, and did not recover a cent of the loss. But I found out what dogs did the damage and they were two dogs that were not cared for at home but were made to find most of their own food. Make every dog owner take care of his dog and we will have little trouble with sheep killing. Above all, protect the good dogs and take care of them.—W. G. Sully, Steuben Co., N. Y.

Get Rid of Worms

Figure how much it's worth to you in dollars and cents to keep your hogs free from worms. Worms prevent thrift—retard growth—rob you of good, high-priced pork.

Dr. Hess Stock Tonic
Drives Out the Worms

and at the same time tones and conditions the system. It enables your hogs to be at their best—to do their best. You take no chances. My Stock Tonic is guaranteed. You buy it at an honest price, from my dealer in your town who will return your money if it does not do as claimed.

Why Pay the Peddler Twice My Price?
25-lb. Pail, $2.00; 100-lb. Drum, $6.50.
Except in the far West, South and Canada.
Smaller packages in proportion.

DR. HESS & CLARK, Ashland, Ohio

DR. HESS POULTRY PAN-A-CE-A
will help your hens through the moult.

Dr. Hess Dip and Disinfectant Kills Hog Lice

Cheap Land!

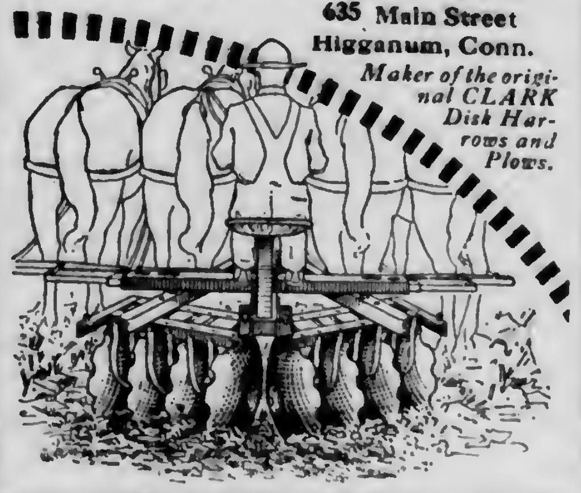
Put your waste land under cultivation cheaply and quickly. Clean up the bad spots with a

Cutaway CLARK Bush and Bog Plow

Does away with hand labor, cuts bogs and stump land that a moldboard cannot touch. Also for heavy stubble and any disking. Two and four-horse. Heavy disks forged sharp. Thousands in use.

Write for new catalog and free book "The Soil and Its Tillage;" also for name of nearest dealer.

The Cutaway Harrow Company
635 Main Street
Higganum, Conn.
Maker of the original CLARK Disk Harrows and Plows.



The Best of Tankage

should be fed to your hogs. Don't take a chance and feed them poor low-grade material. Be sure of your tankage and protect your stock by using

Ideal Digester Tankage

Made from the best of meat scrap, carefully sterilized. If you are not satisfied with results, we will return your money. Order now while we can supply you.

Prices, Feeding Directions, etc., free on request.

IDEAL MEAT SCRAPS TRADE MARK

We also make "Ideal Meat Scraps" best for increased egg production in winter. Write for prices, etc.

IDEAL RENDERING CO.
NORTH WALES, PA.

APPLETON HUSKER AND SHREDDER

from same crop!

The Appleton saves *all* the feed value of corn—while husking ears, it cuts (or shreds) stalks, leaves and husks into fine fodder that gives *twice* better feeding results than shock feeding.

GUARANTEED TO DO MORE WORK WITH LESS POWER

than any husker of equal size. Husks cleanest, shells least; has most efficient corn saver. Easiest, safest to operate.

FREE HUSKER BOOK
shows 4 sizes for 4 h.p. engines and up.
Appleton Mfg. Co. 513 Fargo St., Batavia, Ill.

Be Well Dressed

Buy Clothes that Fit You and Fit Your Purse

YOUR dollar buys, through the Lombard Profit-Sharing Plan, greatest value. For example: *Ladies'* Shoes, $1.49 up; Stockings, 10c to 69c per pair; Waists, 49c up; Skirts, 99c up. *Men's* Shoes, $1.99 up; Trousers, $1.39 up; Tennis Shoes, 67c up. Hundreds of remarkable values illustrated in 60-page catalog.

We pay all delivery charges. You must be satisfied or your money returned. Don't let a penny postal card stand between you and good clothes. Write for catalog *now*. Dept. V

LOMBARD MAIL ORDER CO., Baltimore Maryland

SAY you saw the advertisement in Pennsylvania Farmer when you are writing to our advertisers.

Farm Products Prices and Prospects

NEW JERSEY ASSOCIATIONS HELP FARMERS AND CONSUMERS

It is difficult to appreciate the economic changes in our distribution methods, because the scheme is so vast and includes so many problems. The city authorities thruout New Jersey, and the housewives, have recognized the unusual conditions this year and have supported and maintained public markets in twelve or more cities. The growers are co-operating in many communities for the purpose of lowering shipping costs and eliminating unnecessary expenses.

New Jersey is making history in her agricultural co-operative enterprises. A number of years ago the Monmouth County Farmers' Exchange was organized to assist potato growers in marketing their crops. This organization now has 1,400 members and does a business of over $1,250,000 each year. Previous to this farmers' selling association, independent buyers bought practically all of the crop and of course made just as great a profit from it as possible. The ''Exchange'' is able to do this amount of business thru one office force and some thirty loading stations at a cost of about 2½ percent.

The South Jersey Farmers' Exchange and the Burlington County Farmers' Exchange were organized soon after the Monmouth County society. The headquarters of the South Jersey Exchange are at Woodstown. It has been a great factor in building up the prosperity of the southern counties. The Burlington County organization has its office in Mt. Holly. This Exchange like the other three not only sells the various crops grown by members, but also buys for its members fertilizers, seeds, etc.

In 1915, two rather different associations were organized. The Mercer County Farmers' Co-operative Association started buying all sorts of necessaries for the farmers of that vicinity, and the Vineland Co-operative Association organized to sell peaches. Both of these societies incorporated under the State Law of 1898 respecting associations not for pecuniary profit. Both of these organizations are co-operative in every sense of the word and have practically no capital stock. In 1915 the Vineland growers shipped over one hundred carloads of peaches graded to standards. This immediately gave them a reputation and their work since has placed them as one of the leading fruit shipping associations. The Mercer County members have this year organized two subsidiary societies. One is the Mercer County Potato Growers' Association, and the other is the Central Jersey Producers' Association.

Last year a number of truck growers in lower Monmouth County formed the Monmouth County Shippers' Association. All of these recently organized groups are aiming for standard grades and thru them more dependable and efficient selling. All thinking growers realize that ''Honesty is the best policy'', but the fact that this policy must be advertised, proved and remain permanent to gain the confidence of the best buyers is slow to become recognized. Only thru well defined, definite grades can genuine progress be insured.

The old time attitude of doubt, suspicion and often real hate between producer and buyer must give way to a feeling of confidence and mutual interest.

In Sussex County the apple growers have formed an association and they are looking forward to the marketing of a high grade of apples this fall. The North Haledon Farmers' Exchange has recently incorporated. These people are going to buy their feed, etc., at wholesale. Many of the local granges have for years transacted business. It seems that from the beginning farmers have suffered from a peculiar business system. They have bought at retail and sold at wholesale. In reality a farm is a producing plant just as much as a manufacturing firm. In order to do business and make a profit a farm should have its raw material supplied at wholesale prices and should be in position to sell its finished product at as near retail prices as possible. So long as small farmers remain absolutely independent of their neighbors, little change in this order of things can be expected.

The Monmouth County vegetable growers finally realized that by only minding their own particular business, buyers were taking great advantage of them. Speculation and dealing in their products was carried on and afforded good living to many produce merchants. When they shipped to New York twenty different dealers competed against each other to sell twenty different farmers' tomatoes. Buyers pitted one against the other and the farmer always suffered. Today all the goods from those twenty farmers are shipped to two or three merchants who are able to dispose of them according to the supply and demand.

FARMERS' MARKETS MULTIPLY AND PROSPER IN JERSEY

No less than twenty municipalities in New Jersey have established farmers' markets during this year. In most instances they have been patronized beyond the expectations of those interested in organizing them. Particular conditions surrounding the farmers in some sections have held back the supplies but the buyers have demonstrated that the selling end of this type of a market is popular.

Cities which opened a market late in the season or those which have not had as great success as possible should decide this fall that the market will be continued next year. Everything in connection with the market should be settled and the farmers notified. Only in this way can growers prepare satisfactorily to take advantage of the opportunities.

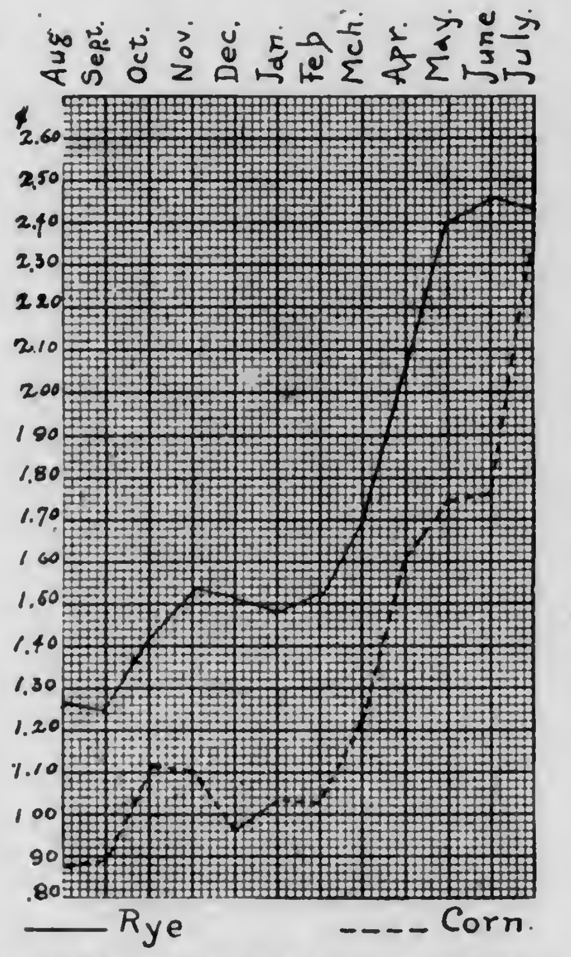
The system of planting and growing must be quite changed where wholesale selling has been practiced in the past. A producer to make the most out of a nearby retail market should have small quantities in quick succession of different kinds of products. In this way he can attend the market each day, secure regular customers and establish a reputation for his goods.

A number of large growers who steadily maintained that retail selling was not practical for them have found that it was. Where the produce is hauled to market retailing can be done. These farmers find that the extra time they spend selling in small quantities is the most profitable time in the year for them.

In Pennsylvania and other states goods are sold in such markets that are shipped in by rail. Frequently some younger member of the farm household or the wife takes charge of the retail selling.

THE BASIS OF WHEAT PRICES

The price-fixing committee say they expect a good deal of criticism from the farming classes because of the price named for wheat. They will not be disappointed. The committee considered the experts' estimates of the cost of production in 1917, but it is manifest that they could not have based their price on real cost, which is determinable in quite a different way. At best the experts' figures can be theoretical only at any time or for any crop and would in most cases have only a very remote relation to the actual cost on individual farms. The best test of the cost of producing wheat is the fact that it is produced. For example, prior to the war, from say 1884, the average yearly price for No. 2 red winter wheat at Chicago ranged between 57c (1894) and $1.22 (1909) and was only 92c in 1911 and $1.04 in 1912; nevertheless the wheat crops of 1914 and 1915 were the largest on record. Theoretical considerations of cost by the experts and statisticians do not count for much in predetermining production; for much as some of the experts might desire to do otherwise, the final determination of the cost of production of such a crop as wheat must be along the lines of the economist who says that in the finality the supply of such a commodity is determined by the cost of producing it on the ''marginal'' farms whose product is required to match the marginal utility of the commodity itself. In plain terms, if a farmer finds himself badly paid growing wheat as a regular part of his operations, he will give it up; and vice versa; so that the true cost of production will be found at a point where the general remuneration of farmers is just sufficient to keep the ordinary farmer raising it. The record of crop totals in this country shows that considerably under a dollar a bushel would represent cost in recent years. So, of course, the price committee could not have seriously taken ''cost'' into their deliberations on the price they would and did name. Yet they will hear from the Equity farmers of the Northwest and some of those of Kansas who were about to send delegations to Washington to protest that anything less than $2.50 a bushel would ''not cover cost''.



RANGE OF PRICES FOR NO. 2 RYE AND NO. 2 CORN ON CHICAGO MARKET FROM AUGUST 1916, TO JULY 1917.

The real offense of unfairness in the committee's work is the differentials established between markets. It is clear that these were arbitrarily made, not computed on a basis of actual business conditions—another demonstration that the committee did the only thing they could do under the circumstances, the plunge of fixing prices at all being taken by the Administration—they put the price at an arbitrary figure by guessing at what the producer and consumer alike could be made to stand for.—Price Current-Grain Reporter.

Editors' Note.—The above is published to show the process of reasoning used by those interested in handling wheat, rather than in growing it.

GRAIN PRICE TENDENCIES

Corn

Reports from the corn belt, while showing considerable damage by the recent frost in the Northwestern States, were, on the whole, considered less serious than might have been expected. It was the concensus of opinion that the crop has not suffered sufficiently to very materially reduce the total output. At the same time it is not yet definitely ascertained how much of a loss the crop has sustained and bears were noticeably cautious.

Oats

The oats market showed unexpected firmness in view of the action of corn. An active demand from September shorts in Chicago revealed a feeling of uneasiness regarding the movement, while firmness in Winnipeg and further complaints regarding the Canadian crop had a sustaining influence on the market in general. Exporters were again in evidence, but the demand was limited to prompt shipment, showing that the buying movement is to fill freight room which was originally intended for wheat, and was thought to strengthen the belief that export business in oats will fall off as soon as wheat is available.

Wheat

The plan of the Food Administration in connection with the marketing of wheat so far has not worked out as advantageously as had been hoped for. At least cash wheat is still very scarce, both for milling purposes and for export. Farmers are in no hurry about selling their wheat and the movement continues small, with domestic mills in some cases being forced to shut down on account of a lack of supplies and shipments to Europe are very meagre.—Journal of Commerce.

Dairy Feeding.—Bulletin No. 73 of the New Jersey Experiment Station gives a discussion of dairy feeding and the calculation of balanced rations. This bulletin will be of especial value this year when every feeder will need to save feed carefully. The bulletin is free from the above station at New Brunswick, N. J.

The Comparative Costs of Feed and Eggs

By Paul R. Guldin

Many poultry raisers seem to believe that the present high cost of feed has greatly reduced poultry profits. Consequently a larger number than most of us realize have sold off their flocks or greatly reduced them. I am here giving the results of a comparison of feed costs and egg returns, made for my own information, in helping to decide how many layers to keep for the winter of 1917-18. Strictly speaking, the results only apply to my own flocks and methods of management. However, they should be of some help to others in deciding whether or not it will pay to keep their usual number of layers.

For the week beginning Saturday, August 11, 1917, I kept accurate records of all feed consumed and eggs laid by a flock of 320 layers hatched May 20, 1916. Costs of labor, housing, depreciation, etc., are not considered. From my poultry accounts, I secured the exact prices paid for feed during the same week in August in 1914, 1915, 1916 and 1917. The prices received for eggs were similarly secured.

READY FOR MARKET.

Most of the feed is bought direct from near-by farmers, thus saving the middleman's profit. The prices given are what I paid for the feed delivered at my farm. All my eggs are shipped to New York City and the net price received at my station is used. The comparison is made by computing what the same amount of feed actually fed in August, 1917, would have cost at the prices paid for the same week in the other three years. Egg receipts were considered in the same way. In other words, I determined what profit there would have been for a week in 1914, 1915 and 1916, for the same flock of 320 layers, if they had eaten exactly as much feed and laid the same number of eggs.

The following grain mixture was fed: 60 pounds corn; 60 pounds wheat, and 32 pounds oats.

The dry mash was made of: 60 pounds corn meal; 60 pounds wheat middlings; 30 pounds wheat bran; 35 pounds beef scrap (85 percent protein); 10 pounds alfalfa meal, and 10 pounds oil meal.

The birds were on free range, so no record is taken of green feed. For the seven days, 123 pounds of dry mash and 266 pounds of the grain mixture were eaten by the birds. They laid 1170 eggs, or 97½ dozen during the week.

As seen from the table, in spite of the higher cost of feed in 1917, the profit above feed cost for this year was greater than any previous year.

In drawing conclusions from these results we must bear certain things in mind.

Only one week is considered. This is hardly a fair way to judge results for a whole year. However, similar tests for other weeks have given the same results. In fact, in the heavy laying months of spring the increase in profits was slightly greater.

The figures give the profit over cost of feed only. In 1917 the cost of labor, equipment, buildings, repairs, etc., have increased, thus lowering the actual net profit more in 1917 than in the other years.

The increase in total egg receipts depends just as much upon the number of eggs produced as upon the increase in price received. This plainly shows the importance of keeping only the best hens during the coming year. The production of the flock from which these records were taken is probably higher than the average production of farm flocks at this time of the year. The farm flocks should be carefully selected and only the good hens retained both as a question of patriotism and of profit. For low production the increased price of eggs will not nearly make up for the higher feed costs. The lesson is obvious, cull the flock, and then cull again, only, be sure to sell the poor ones and not the good ones.

For those who think that from 320 hens, a return of $5.10 more per day for eggs than the feed cost is exorbitant, let them consider the cost of labor, housing, land, etc., the risks that the producer always faces, and the long winter months ahead when yearling hens cannot usually be expected even to pay their feed. Furthermore, the price received for eggs from the above flock is from 12 to 16 cents per dozen more than the average farmer was getting at that time.

In conclusion, I believe that where the hens are well-cared for, giving high yields, poultry profits are greater than ever before, while for flocks not well-cared for the loss is greater than ever before. Instead of selling recklessly, let us select our birds carefully and then use the most efficient poultry methods we know.—Paul R. Guldin, Berks Co., Pa.

	1914	1915	1916	1917
Wheat, cost per bushel	$ .85	$1.00	$1.10	$2.00
Corn, cost per bushel	.85	.85	.90	2.00
Oats, cost per bushel	.45	.55	.50	.90
Wheat middlings, per 100 pounds	1.70	1.80	1.70	3.00
Wheat bran, per 100 pounds	1.40	1.50	1.40	2.10
Oil meal, per 100 pounds	1.75	1.90	2.00	2.60
Alfalfa meal, per 100 pounds	1.70	1.75	1.75	2.20
Beef scrap (85 percent protein)	3.60	3.60	3.60	6.65
Cost per 100 pounds of grain mixture	1.45	1.61	1.68	3.31
Cost per 100 pounds of dry mash	1.92	1.98	2.03	3.43
Cost of 266 pounds of grain mixture fed	3.86	4.28	4.47	8.80
Cost of 123 pounds of dry mash fed during week	2.35	2.43	2.50	4.22
Value of eggs per dozen	.305	.325	.375	.515
Value of 95.5 dozen eggs laid during week	29.12	31.03	35.81	49.18
Total cost of feed for week	6.21	6.71	6.97	13.02
Excess value of eggs over feed for week	22.91	24.32	28.84	36.16
Profit per day over cost of feed only	3.27	3.47	4.12	5.16

MAKING CAPONS PROFITABLE

Undoubtedly there is a chance to make money from capons and many poultry breeders who understand this branch of the poultry business are finding it profitable. However, some breeders have difficulty in succeeding with capons in certain sections and under certain conditions and their reasons are worth considering. It seems that the average buyers in the local markets have not learned the value of capon meat. A rooster to them is only a rooster and rather than pay a fancy price for capon meat they will buy a fat old hen and be satisfied. It follows that it is necessary for the producer of capons to locate a market where they are appreciated.

Some breeders find that capons are heavy feeders and with the high price of grain the cost of production is heavy. They find that there is more money in selling the surplus cockerels when they are suitable for broilers. Perhaps the most important point is the fact that many poultrymen who carry on a general farming business at the same time are likely to find very few hours to spend with their poultry. They dispose of the surplus cockerels at an early age and then devote their time and energy to the careful rearing of the pullets. Poultrymen lacking in time and equipment need all they have to spare in the work of bringing up pullets so they will lay in the fall.

The cockerels must be separated from the pullets if the best results are obtained, so it is necessary to spend considerable extra time with the flock if capons are raised as a sideline. The breeder with equipment for this work can probably succeed with capons if an effort is made to market them properly. A few capons carelessly raised and marketed without an attempt to obtain the best prices may result in a loss instead of a profit.

It would be interested to hear from readers who have made a success with capons and many farmers would like to know just how profits are made and how much can be made by holding the surplus cockerels as capons when feed is as high as at the present time.—R. G. Kirby.

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Sizes	Price	Sizes	Price
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30x3½	$6.00	34x4½	$8.50
32x3½	$7.00	35x4½	$9.00
33x4	$8.50	36x4½	$9.00
34x4	$8.50	37x4½	$10.00

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ZENITH BUTTER & EGG CO., 170 Duane St., New York N.Y.

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Ship your DRESSED POULTRY and EGGS to ARTHUR H. BONSOR, Reading Terminal Market, Philadelphia, Penna.

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The Waywardness of Cupid

By Faith M. Vandersall

Eleanor Leighton bent over her trunk with determination. Never again would she attempt the role of missionary. It had ended so differently from what one could possibly have expected. She was one of the summer boarders at Mr. Bronson's farm, and she had been there since June. During the busy harvest season Mr. Bronson always employed extra help, and she had been especially interested in one of them, a brawny Scotchman whom they called Aleck. Nell had never heard his other name, but, because of his size and strength, she had singled him out as an object for her aforesaid missionary efforts.

No one could help admiring his physique, as, seemingly tireless, he pitched hay or took the hardest tasks from the others, making play of the most difficult work. He had a natural courtesy which pleased while it surprised her. So, after his working hours, she tried to bring out his conversational powers, and she had found him to be a man of fine mind, tho rather inclined to be reticent. Then it was that she resolved to try to influence him toward a higher education.

Day by day her interest deepened, and as the summer passed she found herself postponing her departure from time to time. She assured herself that it was because of the country air, or the beautiful sunrises, until, to her dismay, she was obliged to confess that none of these was so great an attraction as the big hired man, Aleck. At that confession, Nell scolded herself soundly, hastily packed her trunk, and announced to Mrs. Bronson that she must leave the next morning.

Evening came, and it was with much nervousness that she saw Aleck approach her hammock. If only she could run away. However, to do that would be too great an admission; so she sat still.

With quite his usual manner, he began some light talk, and with an unusual tact led the conversation into safe channels. All at once she noticed that he had dropped his Scotch accent, and was speaking with the assurance of a man accustomed to move in cultured society—her world of educated men and women. This puzzled her greatly and just as she was wondering whether he really belonged in the country, he paused abruptly, then said very quietly, in a tone that made her pulses leap, "So you leave us tomorrow?"

With an unaccountable heaviness of heart she made her answer, "Yes, tomorrow." He was silent for a moment, and she tried to steady her absurdly trembling hands, and hoped that he couldn't hear the loud beating of her heart.

"Will ye no come back again?"—he said at last, with his broadest Scotch accent. And as she hesitated he added in a low tone:

"'Better lo'ed ye canna be,
Will ye no come back again?'"—

"I—I—don't—know," she could only falter, and he rose, saying in his quiet way, "Sometime you will know your heart. Then do not fear to follow its leading."

Then she, feeling that tears were near, had said a hasty good night and had left him.

The next morning she took the early stage, leaving without seeing Aleck again, and trying to forget what she determinedly called her summer foolishness, she joined some friends at a seaside resort.

What would her friends think of her anyway? She to be in love with a chance harvest hand! Doubtless a wanderer, no home, nor even means. How could she be so foolish! When she got thus far in her reasoning, Nell heard the quiet tones again:

"Better lo'ed ye canna be."

It was harder to forget than she had thought.

Fall days passed with many a social affair, and her beauty and really lovely character won her many a friend, and some who wished to be more than friends. But always when they told her of love, she heard a whisper:

"Better lo'ed ye canna be."

and she turned away from them all. The old song seemed to have woven a spell about her which she was powerless to remove.

At Christmas time a tiny parcel came to her. It was a volume of Scotch poems. There was no name to tell who had sent the book—only a book mark marking the page where she saw the song which she was trying to forget—

"Will ye no come back again?
Better lo'ed ye canna be."

Tears of anger and heartache fell on the open page. Then she put the book away tenderly, with a heart lighter and, strange to say, heavier than before. He had not forgotten her, but she must forget him.

Summer came again, but a party of friends were planning a trip to Europe, and tho her heart protested, Nell decided to go with them. She would rid herself of such sentimental nonsense once for all. Then it seemed as tho even the winds and waves whispered sadly,

"Will ye no come back again?"

A spirit of restlessness took possession of her, and when September came she found herself at home and tired out as well as disheartened.

Her brother was at home also, and it was such a relief to talk to him. Tom was always sensible. She decided to tell him her troubles. He listened sympathetically, then said:

"Tell you what, Nell, the football season begins next week, and I'm to play on our college team. What you need is to get acquainted with some first-class chaps—not the dudes who have been pestering you to death. We have a big game in November. You get into your smartest gown and come up. I'll get you a jolly beau, and you will be the prettiest girl that wears our team colors."

His ready sympathy was such a relief to Nell, and as she got Tom's lively letters her spirits rose until she was more like herself than she had been in a long time. The afternoon before the great game found her cosily established in the big hotel, and Tom, with some of the boys, entertaining her most delightfully.

After they had gone, there came a knock at her door. It was the bellboy with a box of flowers. Opening the box she saw a most beautiful bunch of chrysanthemums tied with the team colors. Exclaiming at their beauty, she lifted them out and looked for the accompanying card. On the plain card had been penciled simply the words:

"Better lo'ed ye canna be."

In utter bewilderment she gazed at the card. Could Tom?—But no, she had not told Tom about that part. Completely puzzled, she placed the flowers in a vase of water and after trying in vain to solve the mystery she gave up in despair.

When dressing for the game on the morrow, she thoughtfully gazed at the flowers, then, flinging pride to the winds, she yielded to the spell which the card's message had wrought, and, flowers in hand, took her seat in the grand stand.

A group of Tom's friends gathered near her, and one of them, Ned Evans, volunteered to give her the pedigree of the teams, and his comments were most audacious.

All at once she exclaimed, "What a giant!"

"Oh, Miss Leighton, please don't," said Ned.

"Don't what?" asked Nell, laughing.

"Don't fall in love with Big Sandy McAllister. Every time I take a girl to a football game she is at once so attracted by that giant that I can't get another bit of her attention while the game is on. The questions I've had to answer about that man would fill a book. Its been so for two years now," he concluded sadly. "Well, if I must: Big Sandy has the reputation of possessing the biggest brain and biggest muscles of any man in the college. Parents rich, good family, decidedly eligible. Is that enough? No? Well—invincible as regards the ladies; wouldn't know it if forty of them were languishing for him at once."

"Enough, enough," laughed Nell. "I promise not to languish. Don't worry. But he's splendid."

"That's the way they all begin," said Ned dolefully. Then, as the players took their places, both became absorbed in the game.

As for Big Sandy, he gave one look at the grandstand where Nell was sitting, and, on seeing the flowers in her hands, his face lighted up, and squaring his jaw in his stubborn way, he said, "We'll win this game". Perhaps he meant the football game; perhaps not.

Nell watched the teams, and soon found herself watching most of all the fair-haired giant whose strength and skill were so great as to win cheer after cheer from the crowd.

When the game was over, Nell waited anxiously for Tom's coming. Presently she saw him in company with Big Sandy coming across the campus.

"My sister, Mac. Nell, you've heard me speak of McAllister, my roommate." Bowing, in response to Tom's introduction, Nell heard a voice so well remembered say, "I have met Miss Leighton before, tho perhaps she has forgotten." Looking up confusedly she could only stammer, "I—remember", for it was Aleck—the hired man! He merely said, in response to Tom's surprise, "It was the summer I went out as a harvest hand to keep my muscles in shape for team work."

Tom whistled, then said, "The hired man!" and with a laugh at her confusion he discreetly vanished.

Back at the hotel, and alone, Nell laughed softly. It had been a stormy half hour. Sandy had walked back with her. She had felt indignant, and addressed him with a chilling politeness, which she felt he really deserved. It availed but little. He was simply irrepressible. When she grew more severe his eyes had twinkled, and he had asked if he might carry her flowers for her. The hot flush of her face made further severity impossible. She had forgotten that the flowers must have come from him.

"Will you have an ice, Miss Eleanor?" said a well-remembered voice, at the reception that evening.

Nell's self-possession had returned. She had the advantage of him now. She turned to see "Big Sandy" with two camp-stool and two ices. "The campus is beautiful, viewed from the balcony," said he. She could hardly refuse, so she followed him.

"What I don't understand," she began, as he placed her chair and drew a light shawl around her, "is why you never told me you were Tom's friend, and how did you know me anyway?"

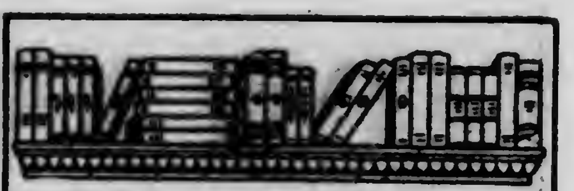
He was silent a moment, then, leaning forward he took both her hands in his. "I fell in love with your picture when I first roomed with Tom," he said, "and when you came to Bronson's I recognized you at once, as surely as a man will know the woman of his dearest dreams. But I did not wish to subject you to needless gossip. If you had known me you might have been in an embarassing position."

"I am now," she retorted, mischievously, looking at her hands which he still held. Even in the subdued light Nell could see the crimson flush which slowly covered McAllister's face as he gently released her hands. Only a minute she hesitated, then, as his eyes searched her face, she slipped her hands back into his. He caught them, breathlessly, and bent toward her, waiting—

"Better lo'ed ye canna be."

she softly whispered, then, in a womanly panic, hid her face in the shelter of his strong arms.

THE END



PIECES *to* SPEAK

We shall be glad to procure and publish poems in this department on request if possible. We believe that the old-time custom of learning and speaking pieces at school and public gatherings should be encouraged, and we desire to aid in such work by publishing suitable pieces.

A GENTLEMAN

I knew him for a gentleman
By signs that never fail;
His coat was rough and rather worn,
His cheeks were thin and pale—
A lad who had his way to make,
With little time for play—
I knew him for a gentleman
By certain signs today.

He met his mother on the street;
Off came his little cap.
My door was shut; he waited there
Until I heard his rap.
He took the bundle from my hand;
And when I dropped my pen
He sprang to pick it up for me,
This gentleman of ten.

He does not push and crowd along,
His voice is gently pitched.
He does not fling his books about
As if he were bewitched.
He stands aside to let you pass,
He always shuts the door.
He runs on errands willingly
To farm and mill and store.

He thinks of you before himself.
He serves you if he can,
For in whatever company
The manners make the man.
At ten or forty 'tis the same,
The manners tell the tale,
And I discern the gentleman
By signs that never fail.

Always do the best you can,
Good advice for any man,
Nothing worse than blank despair;
Take up heart and shoulder care.
Life hath work for every man,
Strive, and do the best you can.

Among the Granges

Lycoming County, Pa.—The September meeting of the Lycoming County Pomona Grange held at Eagle Grange near Montgomery, was marked by the interest taken by the grangers in the two questions which came up for discussion at the afternoon session, a number of prominent men and women taking part in these discussions. This Pomona grange is the largest held during the year and while a crowd was present on this occasion, some of the grangers from the farthest points of the county were unable to attend owing to a heavy storm the previous night.

The entire morning was given over to business. Reports from the different granges were heard and plans for the state convention to be held in Williamsport during the second week of December were completed. It was decided to appoint a general committee, the work of this committee being to assist all of the other committees in their general work. T. P. S. Wilson, head of the Boys' Industrial School of Williamsport, was named as chairman of this committee. The dinner and supper served by the members of Eagle Grange were in the nature of Red Cross affairs, the proceeds being given to the Red Cross of that valley.

The afternoon meeting was an open session and the first thing which came up for discussion was the wisdom of the subordinate granges paying a certain sum statedly to the Pomona grange, thus relieving individual members from Pomona dues. It was decided to hold this over until the next closed session. After music by the grange and a reading by Miss Snyder, the question "Home-Making as Against a Professional Career" was opened by a professional woman. This young woman tried to show that while the normal woman believed in the home, and that home-making was the greatest work a woman could engage in, because of present day conditions many girls had to enter professional life and they could find an opportunity for real service in this work. She referred to the special service that women could render in different professions, declaring that after all service was the one thing in life that counted. She also tried to show that the woman in professional life learned to stand alone, and while she had many temptations, she had also great opportunities for character building.

One of the members of the grange took the opposite side of the question. While she acknowledged that some professions gave opportunities for service, she declared that the greatest profession was that of being a home-maker and a mother. She also asserted that if a girl must enter a profession she should have training first in home-making.

The question which brought forth the most heated discussion was "The High cost of Living". This was opened by Harvey Smith, of Montgomery, president of the bank. Mr. Smith declared that all realized the truth of the question. What concerns us most is what has caused this condition and how it can be remedied. After comparing prices today, with those of other war days, he said that undoubtedly the war had something to do with the matter. Speculation comes in for a share of blame. Supply and demand of course figure in this to a certain extent. And the fact that we demand better living today naturally is responsible for this condition, to a certain degree. Mr. Smith asserted that while he believed there would be some change after the war, he said that he felt sure we would never get back to the old prices.

Fred Knipe, a student from State College, told of the gradual rise in prices since the Civil War, and declared that we had just reached the crest of the wave, that prices should and would have dropped to a lower figure, when the war broke out and changed the aspect of the case. He, however, also declared his belief that they would drop after the war, but never to the former stand. Several men discussed the present methods of living, the eight-hour day, and the demands of the working men declaring that when men earn big wages prices must soar. The fact, too, that today we are not satisfied with living in moderation was said to be one reason for the present prices. The grange went into closed session at the conclusion of the discussion and ended with the grange service.—Dorothy Deane.

POTATO STORAGE DEMONSTRATION

POTATO STORAGE DEMONSTRATION CAR RUNNING ON LEHIGH VALLEY R. R.

The Agricultural Department of the Lehigh Valley Railroad is running a special demonstration car over its lines in the interest of better storage of potatoes. Lectures are given at each stop. The schedule for the next two weeks is as follows:

With Allen S. Merchant, County Agent.—September 21, A. M., Truxton; P. M., Cortland.

With E. C. Weatherby, County Agent.—September 24, A. M., Locke; P. M. Moravia. September 25, all day, Auburn. September 26, A. M., Weedsport; P. M., Cato. September 27, A. M., Sterling; P. M., Martville. September 28, Fair Haven.

With Arthur Buckholz, Federal Agent.—October 1, A. M., Oaks Corners; P. M., Phelps. October 2, A. M., Clifton Springs; P. M., Farmington.

With L. A. Toan, County Agent.—October 3, A. M., Mendon; P. M., Rush. October 4, A. M., Henrietta; P. M. Honeoye Falls.

With W. H. Humphrey, Federal Agent.—October 5, A. M., Lima; P. M., Hemlock.

Farm Waste for Live Stock.—Farmers' Bulletin 873, of the U. S. Department of Agriculture, discusses the utilization of farm waste in the feeding of live stock. The bulletin points out that more than one-third of the grain-straw raised in this country is not used to advantage. The discussion covers mainly the use of straw, stover and cottonseed in the feeding of beef cattle, dairy cattle, sheep and horses. The bulletin is free from the above Department, Washington, D. C.

The Mueller Pipeless Furnace Keeps Our Whole House Warm

THAT'S the testimony that came last winter from thousands of homes in the coldest parts of the United States—and last winter gave all heating systems an unusually severe test.

The Mueller Pipeless Furnace kept thousands of homes warm and comfortable at less cost and with less trouble and work than they ever had before. And next winter thousands more homes—new and old—will be heated with this wonderfully simple, economical and efficient heating system.

The discovery that it is not necessary to have pipes to conduct the warm air to the different rooms—that it will go there just as quickly without any pipes at all—has enabled these thousands to enjoy the comforts and conveniences of furnace heat in their homes at small cost for installation and without the necessity of tearing up the walls for pipes or flues.

No more putting up stoves in the fall and taking them down in the spring—no more carrying coal to the different rooms and lugging away ashes—no more space taken up by stoves—no more heating the house in spots. The Mueller Pipeless Furnace keeps all the rooms at a comfortable temperature because it maintains a continual circulation of warm air throughout the entire house.

It is just about as easy to set the Mueller Pipeless Furnace in place in the cellar as to go through the annual ordeal of "putting up the stoves". And when the Mueller Pipeless is once installed it is there to stay. There is just one heating plant, and that is in the cellar, where it belongs, out of sight and out of the way, yet doing its work perfectly.

Interesting Book About Pipeless Heating, Free

The Mueller Pipeless Furnace is a *real* furnace of exactly the same construction as the old reliable Mueller line, only without pipes or flues. It is the result of 60 years' experience in the building of heating systems of all kinds, and is backed up by the Mueller name and reputation.

The entire furnace is of solid cast iron, the radiator is one piece, grates are of the triangular duplex pattern, the ash pit is large and high and the double jacket is rust-proof. The Mueller Pipeless saves 35% in fuel—burns hard or soft coal, coke or wood.

You should know all about this new and improved method of heating homes. Just tear out this advertisement, write your name and address on the margin and mail to us for interesting illustrated booklet, and name of nearest dealer who can tell you all about the Mueller Pipeless.

L. J. Mueller Furnace Company
222 Reed St., Milwaukee, Wis.
Makers of Heating Systems of All Kinds Since 1857.

Eastern Distributors:
Keystone Supply & Mfg. Co., 917-949 N. 9th St., Philadelphia, Pa.
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MUELLER PIPELESS FURNACE

Late Fall Vegetable Recipes

To Eat Now and to Can For Later Use

We should aim to use more vegetables in our meals while they are still obtainable from the garden. Altho they are not a substitute for meat in body building, the starchy roots are a cheaper form of heat and energy food than meat. Besides they are better body regulators, since their mineral matter neutralizes the acids formed by eating meat. Green, succulent vegetables are especially good for the latter purpose. Peppers are a good illustration of the latter class of vegetables. The following recipes from the New Jersey Agricultural College home economics department may be new to you. Try them.—The Editor.

Stuffed and Baked Green Peppers. — Wash 6 large green peppers, put them into boiling water and boil about five minutes; take from the water, rub off the skins with a wet cloth, remove the seeds with a small spoon and stuff the peppers with a mixture of any kind of minced cold meat and moistened stale bread crumbs or cold boiled rice or mashed potatoes and finely chopped onion seasoned with salt and pepper. Unless the meat contains considerable fat a few spoonfuls of gravy or bacon fat should be added to each pepper after the filling is in, place on end in a deep baking dish, and bake in a moderate oven for a half an hour.

Fried Peppers Creole Fashion. — Cut 6 large peppers in halves and remove the seeds, wash ½ pint of rice, throw into boiling water and boil 15 minutes; drain until dry. Scald and peel and cut small 6 tomatoes, add the rice and one finely chopped onion, salt and pepper, mix and stuff into the peppers. Heat 6 tablespoonfuls of olive oil in a frying pan, fry the peppers until slightly brown, stand the pan in the oven, add ½ cup water and bake slowly ¾ hour, basting two or three times.

About Beets

Beets contain somewhat more sugar than any other vegetable. The red variety is more attractive for table use than the white or yellow varieties. To retain the red color in cooking as well as flavor and soluble sugar the beets should be cooked, after washing, with the skins on until tender. Before cooking, the roots should be untrimmed and at least one inch of the top left on to avoid bleeding.

Beet tops that are not too old make excellent greens. After being washed the beet tops are cooked until tender in a small amount of salted water. After draining the greens may be seasoned with butter or bacon fat. A garnish of hard boiled egg or crisps of bacon increase the attractiveness and the food value. Left-over beet greens may be used for salad by pressing them firmly into individual molds. When ready to serve, the molds are inverted on lettuce dressed with oil and vinegar. A border of hard boiled egg, chopped beets or other vegetable is a desirable addition.

Canned Beets

Altho beets may be stored for use thruout the year there are several advantages in having a canned supply, because they are ready for use at once. At this season they are the least expensive and are more delicate in flavor and tender. In the winter beets often require four hours boiling. Serving them in vinegar increases their tenderness.

To prepare beets for canning the beets should be washed, but do not trim. Plunge them into boiling water, and when the water returns to the boiling point cook for seven minutes. The beets may then be placed in cold water and scraped. These beets may then be left whole, sliced or cut in cubes and packed into jars that have been sterilized by 15 minutes boiling. A level teaspoon of salt is added to each quart jar. The jar is filled brimming full of boiling water, a good rubber is placed on the jar and the cover partly sealed. If the glass top jar is used the top clamp only is put into position. If the screw top jar is used the cover is placed tight enough against the rubber so water does not leak out when the jar is inverted—yet there is room for the steam to escape. These jars are then placed in boiling water on a wire rack in a boiler or kettle deep enough so the tops of the jars can be covered by one inch with the water. After the water returns to the boiling point the beets are cooked for 1½ hours. The jars are then removed and the covers firmly tightened at once. In the winter these beets may be served by draining and then heating with a seasoning of butter and salt.

WINDING BANDAGES AT RED CROSS HEADQUARTERS.

Pickled Beets

If pickled beets are desired, the process is the same as above except that the jar is filled brimming full with boiling vinegar instead of the boiling water. Any desired spices should be added to the hot vinegar before filling the jars.

A LESSON IN BRUSH AND DUSTPAN EFFICIENCY.

How to Use Eggplant

The eggplant is a native of the East Indies, but its cultivation and use as a vegetable has spread to nearly every tropical and temperate country. It is grown in the United States from the southern part of Florida, where it is cultivated during the winter months, as far north as New York and Central New England. This vegetable is grown extensively in New Jersey, large quantities being sent from the truck growing sections to the Philadelphia and New York markets. It is a great favorite with all the peoples of southern Europe and its cultivation in this country as a market crop is largely to supply the demand for it by the people who have come from European countries.

The eggplant can be prepared in a number of palatable ways, and now while it is plentiful and cheap it should be used more by native Americans who have heretofore neglected it.

Fried Eggplant

Peel a medium-sized eggplant, cut into thin slices about one-eighth inch thick, sprinkle well with salt and let stand about half an hour, then drain off all moisture, dip the slices first in beaten egg, then in bread crumbs and fry in deep hot fat until brown. The slices may be dipped in a batter made of eggs and flour instead of bread crumbs if desired.

Eggplant Fritters

Boil a good-sized eggplant in salted water; when tender peel, drain and wash, and to each pint of pulp add ½ cup of flour, 2 well beaten eggs, salt and pepper. Shape into small fritters and fry in boiling fat until both sides are brown. Summer squash, especially the yellow crookneck, can be used thus in place of eggplant.

Baked Eggplant

Peel one medium-sized eggplant, cut into slices about ¼ inch thick, sprinkle with salt and lay in a deep bowl and let stand in a cool place for an hour, then fry in a pan of smoking hot fat until well browned. In the same fat fry four peeled and sliced tomatoes for about five minutes. Soak about one-third loaf of stale bread in cold water, squeeze dry and mix with the tomatoes; salt, pepper and give a dash of cayenne, then stir over the fire until scalding hot and place in a baking dish in layers with the slices of eggplant. Put about a tablespoonful of butter in small pieces over the top, and dust with bread crumbs or cracker dust. Bake in a very hot oven until the crumbs are brown.

Left-over cold fried eggplant can be used in this way. A little onion chopped fine may be added if desired, and grated cheese may be added to the bread crumbs.—Home Economics Office, New Jersey Agricultural College.

RED CROSS AND FIRST AID

In every large city and in many of the smaller ones and even in the towns —wherever there is a Red Cross Auxilliary one finds town and country women working. Around the clean tables, in caps and white aprons and directed by trained nurses, they roll bandages, make sponges and pads and whatever is needed by our boys in France and at home. Each week we send boxes filled with bandages, first-aid boxes, shaving materials, candy, cigars and cigarettes and, odd as it may be, night-caps. The latter are indeed quite a necessity, for insects at night can do much harm and cause great discomfort by crawling into the car. We also send abdominal binders of wool, each soldier to have two.

For days I worked beside a white-faced, delicate woman dressed in black. Only yesterday did I learn of her sorrow. Within 21 months she lost two sons and a husband. One needs only to look into her face to know how she has suffered. Now she is one of the foremost and most interested of workers in first-aid. She started in her town a night class in First Aid for girls, offering her home to them and supplying many of the necessary articles for demonstration.

Touching shoulders with a dignified woman in black whom the nurses call by a well-known name, I find how this war is making the rich woman kin with us poor ones, and that often the busiest fingers are those covered with gems— the saddest eyes, those that look at me from faces well-cared for by a maid. Many of these women pay large sums of money to the Red Cross Society to aid in its support, aside from giving daily their personal service.

First Aid

There is now hardly a town in our land which is not in some way interested in Red Cross Auxilliary aid. And many women are taking the "first aid" instruction. The course (ten lectures) is in every way most instructive and the knowledge which we all should acquire for use in ordinary life emergencies. The members are in most instances asked to pay a small sum of money to cover expenses of the lectures. We get from these instructions a better idea how to protect ourselves from common ills, what to do in an emergency—whether it be drowning, asphyxiation, poisoning or common headache, how to run a bandage so that it will neither cause mortification nor slide off, and when needed how to use a tourniquet so as to put the pressure in order to save a life when a vein or artery has been cut. Also these lessons teach us preparedness against disease.

All this we women should know in ordinary day-to-day living. Especially do country women need this for we are not always near a doctor, and neither do we often have at hand the facilities to care for emergencies as do the city women.—Mrs. E. P. L., Del. Co., Pa.

SOME TOMATO AFTERTHOUGHTS

Canning Tomatoes for Soups.—If tomato pulp is desired for soups and sauces the tomatoes are washed, heated with a few teaspoons of salt water until boiling hot and are then pressed thru a sieve to remove skins and seeds. This mixture is then filled into sterilized jars. The remainder of the process is the same as for canned tomatoes.

Green Tomato Pickles

Chop 4 quarts of green tomatoes and ¾ cup salt. Let stand 24 hours, then drain. Heat 2 quarts vinegar, to which

has been added 2 teaspoons pepper, ½ cup white mustard seed and 3 teaspoons each of mustard, cinnamon, allspice and cloves. When the vinegar and spices are boiling, add the tomatoes, 2 chopped onions and 4 slices of green peppers. Bring to the boiling point again and cook 15 minutes. While hot store in a sterilized jar and keep in a cool place.

Escalloped Tomatoes

Brown 2 cups of bread crumbs in the oven. Mix with 2 cups of fresh sliced or stewed tomatoes, one little teaspoon of salt, ½ tablespoon butter and a dash of pepper. Spread in shallow baking pan, cover with unbrowned bread crumbs, moisten with ½ tablespoon butter and bake in a moderate oven until the dish is hot and the crumbs are brown. Serve hot. One-half cup of chipped cheese added before baking improves the flavor and increases the nutritive value.

Tomato Toast

Tomato toast is prepared by straining hot stewed tomatoes and adding salt, butter and pepper. This is poured over slices of toast arranged upon a hot platter. This should be served hot. If desired a poached egg may be placed upon each slice of toast.—U. S. D. A.

HOME-CANNED LIMA BEANS

Wash your jars; wash rubbers, test rubbers for quality. Set empty jars and rubbers in pan of water to heat and keep hot. Fill wash boiler to cover jars two inches with water. Heat water in wash boiler.

Use only young, freshly picked beans. Place beans in colander; steam by setting over a vessel of boiling water, covered tight, for 5 to 10 minutes. Dip quickly in cold water. Pack immediately in hot glass jars. Add boiling hot water to fill jars. Add level teaspoonful salt per quart.

Place rubbers and tops of jars in position, not tight. Place jars on false bottom of wash boiler. Submerge jars 2 inches. Let the water boil 180 minutes. Start counting after water begins to boil.

Remove jars, tighten covers, invert to cool and examine for leaks. If leaks are found, change rubbers and boil again for 10 minutes.

Wrap in paper. Store in cool, dry place.—U. S. D. A.

FARM WOMEN AND THE SCHOOLS

Why is it that farm women take so little interest in the school that is provided for their children? The rural woman lives a long way from the school house, and by the time her various duties are completed she is too tired to walk the half or three-quarters of a mile to the school house. Again, the school would probably be out by the time she got there in the afternoon. And thus it goes from day to day, and the mother does not keep in touch with the school. During the past season, in every place that I lectured in Farmers' Institutes, I asked how many mothers had visited the school. I found just one mother who had attended the school as a visitor for a part of a day.

Now I have been a rural school teacher, and I have been a rural mother. The mothers get the impression, and I think unjustly, that they are not wanted at the schools. They are likely to think that the teacher must have a special day and invite them all to come. Such a day is all right, but the parents should drop in at least once a month. The more often the parents drop in, the easier it becomes for the teacher.

So many times when a child fails his or her grade it comes as a shock to the parent, while if they had been going to the school room and watching Jimmie do his number work with the rest of the boys, or read in his class, they would not have been surprised. And they might have discovered the trouble in time to have been of real assistance to the teacher.

We live with our children for at least five years before we send them to school, and we have difficulties in governing them and getting the best out of them. Yet we expect a teacher to take a roomful of them and get the best out of them in the first month of school. Certainly if the parents get closely acquainted with the teacher and put before her the little peculiarities of John's or Mary's disposition, the teacher will better understand.

In the last rural school that I taught, it was a great privilege to spend the last three weeks in boarding around or rather visiting, as I called it. I enjoyed every minute of it. But there were things about some of those children that I never could have understood without seeing them in their native atmosphere, and become acquainted with their parents.

In so many places our teachers are tied up to the directors, who in turn are tied to the superintendent who is tied to a political faction. I am very sure that if the mothers of the country will attend the schools at least a day occasionally they will be better able to handle all the attendant difficulties of school life, and the child will be highly benefitted.

I have among my acquaintances a conscientious mother of two boys and two girls. That mother so arranges her work as to take her sewing and carry her lunch with the children and visit the school for a whole day at least twice a term. This practice is highly commendable. The teacher expects her to come. Her children get a square deal in school because the teacher knows that that mother is in touch with the school. I do not mean to visit the school with the idea of being "snoopy". Perfect ease should be practiced.

We must realize that the school is a temporary home, inaugurated by the state to take care of our children at stated intervals of time; and we should put as much thought into that home as into the home where they spend the rest of their time. It is not only our privilege but our duty to know if our children have the proper seats in respect to heat, light and size, if they eat their noon lunches under sanitary conditions, if they have the proper "busy work" and a multitude of other conditions that we should be interested in as mothers.—Eugenia G. Benn, Lycoming Co., Pa.

HANGING LAUNDERED DRESSES

If you have a large family—husband, children and ofttimes guests— you may be glad of these suggestions of wardrobe and closet space.

Place double hooks in the ceiling. Cut pieces of ¾- or 1-inch tape in 6-inch lengths, button a child's dress and fold back from the front, shoulder to shoulder, bring the ends of a length of tape together and fasten thru the shoulder near the seam, using a small pin; you have now a good loop to suspend on the hook; four dresses can be hung on one hook with no damage to their freshness.

Do not make the mistake of fastening the tape to the dress with a large pin or safety pin, for you must avoid a large hole. Use judgment in placing the tape and pin. If there is lace by the shoulder seam, fasten thru a thicker part.

For the little boy's laundered pants, run a large safety pin thru the middle button hole and over band; if necessary, you can place six pairs on one pin—clasp the pin and suspend from hook.

Your own shirtwaists, house dresses, lawns and dimities can be suspended with tape. You will find this a great saving of room. The coat hangers take up much space, and besides a large number of these must be purchased.

When the tape is removed from a garment, put it in a small box in the closet or suspend on a large safety pin kept there for this purpose. — Elizabeth O. Jean, Baltimore Co., Md.

REMOVING GARMENT SPOTS

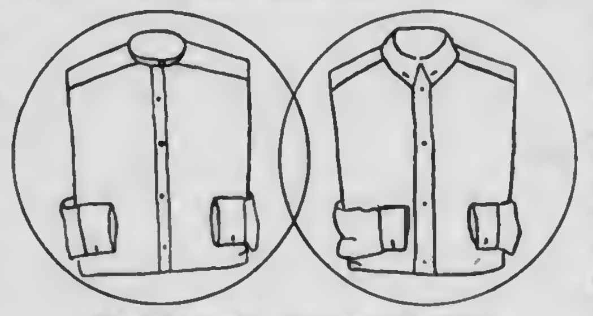
Simple methods for cleaning spots and stains from clothes are often invaluable to the housewife. Clothes free from soil add much to personal appearance.

To remove grass stains the following suggestions are offered by Miss M. Jane Newcomb, assistant in home economics extension at the Pennsylvania State College: Wash in cold water without soap, rub with molasses, let stand a few minutes and wash in warm water.

For tea and coffee stains boiling water should be poured thru the spot. If the stain is obstinate, rub with glycerine or borax. As a last resort use Javelle water, which is made as follows: Put ½ lb. washing soda in an agate pan and add 1 qt. of boiling water, mix ½ lb. chloride of lime in 2 qts. of cold water and allow the mixture to settle, then pour the clear liquid secured from the lime and water into the dissolved soda. Javelle water should be kept in a colored bottle.

To remove ink spots moisten with salt and lemon juice and lay the garment in the sun. Another method, more effective in winter when the sun's rays are not so strong, consists in applying alternately a few drops of oxalic acid and a few drops of Javelle water and rinsing the garment in warm water. This operation should be repeated until the spot has disappeared.

Iron rust may be removed by the lemon juice and salt treatment advised for ink spots. To remove mildew, wash the garment in a solution of chloride of lime or Javelle water.



SHOWING HOW TO FOLD A SHIRT.

TWO WHEATLESS BREADS

Here are two wheatless breads, the first sent in by Mrs. J. C. Witherspoon of South Carolina; the second, taken from the Journal of Home Economics, was prepared by the Department of Home Economics, University of Wisconsin. Both are vouched for by the Food Administration.

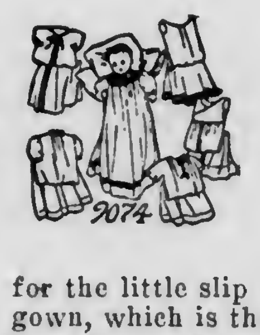
Owendaw or Spoon Corn Bread. — Boil 1 pint of hominy grits with 3 pints of salted water until mixture thickens, then set on back of stove and cook slowly until done, about half an hour. While hot mix in 1 large spoonful butter and 3 eggs beaten very light, next add 1 pint of milk and lastly 1 pint of cornmeal. The batter should be the consistency of rich boiled custard. If too thick, add milk. Bake with good deal of heat at bottom until the batter is set. Serve with spoon from dish. This is a soft breakfast bread, and a South Carolina specialty.

Parley Pone.—To 1 cup boiled hominy grits, allow 2 cups of milk, 2 tablespoonfuls bacon fat, ½ teaspoon salt, 1 cup barley meal, 2 teaspoons baking powder, 2 eggs. Add the milk and fat to the cooked hominy grits. Cool, add salt, barley meal, and baking powder sifted together, then the well beaten eggs; pour into a greased dish and bake in a moderate oven 45 minutes. Cut in triangular pieces and serve from dish in which baked.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

9074.—Infant's Set. — Consisting of round yoke dress, plain slip, kimono, barrow coat, night gown and petticoat. The sheerest and finest of nainsook or Persian lawn is used for the dresses, and no prettier finish could be desired than a deep hem with a cluster of hand run tucks above it. The little dress here illustrated is gathered to a round yoke made of alternate bands of tucking and fine swiss embroidery. A touch of hand work always gives a distinction that nothing else will, and the yoke might be embroidered with a tiny spray across the front. Longcloth was used for the little slip and also for the nightgown, which is the simplest of garments to make, because the sleeves are cut in one with the body of the gown, and box plaits are laid in at the shoulders to be let out when baby grows. The petticoat is known as the "Gertrude", and buttons at the shoulders. It is a vast improvement over the old style petticoat with a waist, as it slips on and off easily, and avoids the necessity of pins. The kimono is made of soft white flannel, and ties together with ribbons under the arm, so there is no pulling and twisting of the little arms in putting it on. The edges may be buttonholed or feather-stitched with white or colored silk. The dress will require 2½ yards of 36-inch material; slip, 2¼ yards; petticoat, nightgown and kimono, each, 2 yards; barrow-coat, 1 yard flannel for the skirt, and ½ yard cambric or muslin for the body. The set is cut in one size. Price, only 10 cents.



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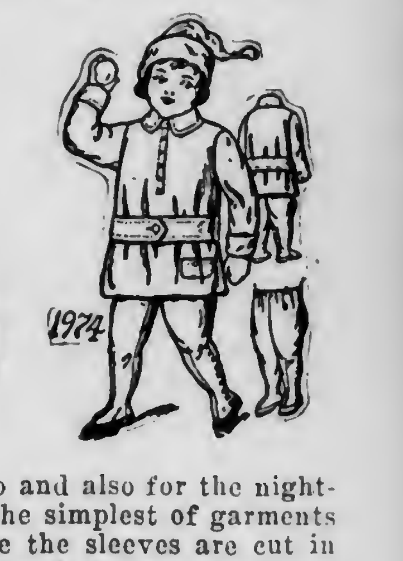
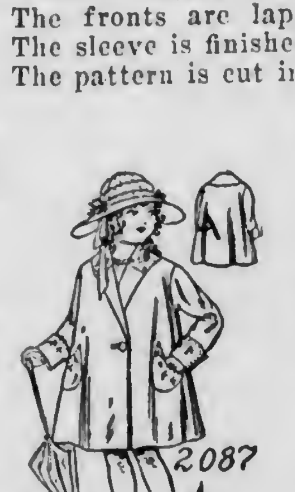


1974

1974.—Child's Outdoor Set, Consisting of Leggings and Coat.—This model will make a nice, warm and comfortable suit for outdoor wear, and will be needed soon. The leggings extend to the waistline. The pattern is cut in 4 sizes: 2, 3, 4 and 5 years. It requires 3¼ yards of 44-inch material for a 4-year size. Price, 10 cents.

2087.—Smart Coat for the Little One. The fronts are lapped at the closing. The sleeve is finished with a smart cuff. The pattern is cut in 4 sizes: 2, 4, 6 and 8 years. It requires 2¾ yards of 44-inch material for a 4-year size. Price, 10 cents.



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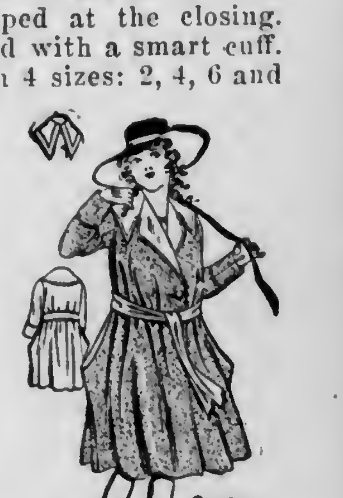

2192

2192.—Jaunty Coat for Girl.—This model has inserted pockets in pouch effect. The fronts are lapped at the rever edges, but may be rolled high, as in the small collar view. The sleeve is a two-piece model. Pattern is cut in 5 sizes: 6, 8, 10, 12 and 14 years. It requires, for a 14-year size, 4½ yards of 54-inch material. Price, 10 cents.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Sept. 17, 1917.

Altho supplies of nearly all kinds of fruit and vegetables during the early part of the week were light, the market on nearly all commodities was rather dull and draggy, due to the fact that Monday and Tuesday were observed as the Hebrew New Year Holidays, and that class of buyers were pretty well off the market. Consequently, trading was light. Potatoes, however, were an exception to this rule, and fancy stock ruled firm. Supplies are now coming mainly from Pennsylvania and New Jersey, with only a comparative few from the Eastern Shore, and these are showing generally poor quality and selling from $3 to $3.50 per barrel for the best, with seconds at $2@$2.50. New Jersey Giants moved freely at $1.15 to $1.20 per bushel and Pennsylvania round stock at $1.30 per bushel, with some fancy well-graded stock bringing a premium over these prices.

Sweet potatoes were in quite liberal supply this week, and the market opened quite a little lower than the closing sales of last week. While the best Eastern Shores sold up to $3.75 per barrel the bulk of the sales were made at $3.25 to $3.50, and some rather poor stock sold as low as $3. Second grades sold from $1.25 to $1.75, as to quality. Jersey sweet potatoes are gradually increasing in supply, and prices easing off accordingly, average sales being made at 90 cents with a few extra fancy higher, and poorer grades lower. No. 2's sold most from 40 to 50 cents.

Vegetables

Offerings of both green and wax beans are light, but the quality has been generally poor and average sales ranged from 50 to 75 cents. Strictly fancy young beans would easily bring 90 cents to $1 for ⅝-bushel basket. Lima beans are in fair supply and prices ruling steady from 60 to 80 cents per basket. Bunch beets continue to meet a fair demand and the market rules steady at $2 to $3 per hundred bunches. Only a few barrels of loose beets have been on the market so far and cannot be quoted. Carrots continue steady at $1.50 to $2 per hundred bunches, and 60 to 75 cents per basket. New York state cabbage was quite plentiful this week, there being 22 cars in the yards Monday morning, and prices ranged from $20 to $22 per ton. New Jersey cabbage sold from 30 to 40 cents per basket. Corn is gradually getting scarce and sells readily at $2 to $2.50 per hundred ears. Most cucumbers come from New York state and sell all the way from $1 to $2 per bushel as to quality. Celery is in active demand, and ranged from 25 to 65 cents per bunch of dozen stalks. Eggplants are showing a little improvement and are moving readily at 25 to 30 cents per ⅝-bushel basket. Lettuce is firm and higher for fancy stock but much of the supply is poor and sells at irregular prices. Onions are in somewhat more liberal supply, but fancy stock is moving out freely and prices are well sustained. Parsley is plentiful and low, and brings from 1 to 1½ cents per bunch. Peppers show very little change from last week, altho the supply is not heavy. Green peppers sell from 35 to 45 cents per ⅝-bushel basket, and reds from 60 to 75 cents per ⅝-bushel basket. Squash is dull and irregular in value, sales being made all the way from 15 to 25 cents per basket. Tomatoes are in active demand when fancy, and such readily bring $1.25 a basket or more, but the bulk of this size are of rather poor quality and sell mostly from 75 cents to $1.10. Turnips are about steady, at about $2.50 per barrel.

Fruits

Supplies of apples are gradually increasing and as a rule prices have been extremely high. The bulk of the apples are now coming from Virginia, West Virginia, Pennsylvania and New Jersey. Grimes Golden, Jonathans, Smokehouse, Duchess, Bonum and Maiden Blush, seem to be the preference of the trade at this time, and the best grades of these varieties have sold generally from $5 to $5.50 per barrel, while other varieties ranged from $3 to $5 per barrel, with No. 2 fruit selling from $2.50 per barrel up. The feeling this week, however, was rather weak, and the market was slow to clean up. Pears are in very light supply and good Bartletts are selling readily at $2 to $2.50 per bushel. Peaches were not nearly so plentiful this week, but demand did not seem so active and prices show no improvement over last week. Dealers, however, are anticipating higher prices for next week. The quality of New Jersey cantaloupes is now running very poor and prices are showing an extreme range, some very poor selling as low as 10 cents per basket, while others, showing good quality, sell at 75 cents per basket, and some strictly fancy bring 90 cents to $1. California and Colorado cantaloupes were in heavy supply this week, and these also showed a wide range in quality, and prices range from $1.25 to $2.25 per standard crate of 45 melons. Grapes are in quite liberal supply from Delaware, and when fancy meet a good demand at 13 to 15 cents per 3-pound basket, altho some rather poor ones sold as low at 80 cents. There have been very few plums here during the past week and the trade is hunting for fancy Damsons, Green Gages and Prunes, and these would readily sell from 40 to 45 cents per 4-quart basket. A very few huckleberries and an occasional lot of blackberries are still coming on the market and both are selling around 14 to 16 cents per quart. The season for watermelons is about over. A few New Jerseys are still coming, however, and sell all the way from $5 to $20 per hundred.

Poultry

The Hebrew Holidays probably had a greater effect on the live poultry market than upon any other single commodity and there was very little trading during the first two days of the week. Fortunately, however, receipts were not heavy and the market showed no important change. Fowls sell from 23 to 27 cents as to quality, and old roosters from 19 to 20 cents. Spring chickens not Leghorns, weighing 1½ to 2 pounds, were held steady at 26 to 27 cents. Leghorns and small sizes sold at 23 to 25 cents. Ducks are doing a little better and range in prices from 19 cents all the way to 23 cents. Young guineas weighing from 1½ to 2 pounds each, bring 75 to 80 cents per pair, with smaller sizes from 55 to 65 cents.

Dressed Poultry

Fine heavy dressed fowls are scarce and under an active demand prices have advanced. Good broiling chickens of desirable sizes and quality held steady at former prices. Turkeys are dull and weak. Ducks firm. Fowls sell from 27 to 31 cents for fancy, large sizes, while smaller sizes bring from 23 to 27 cents. Fancy Jersey broiling chickens sell quickly at 33 to 36 cents and other near-by from 28 to 32 cents, with westerns selling from 25 to 27 cents. Western turkeys bring 20 to 24 cents and ducks, 22 to 23 cents.

Eggs

The egg market is in good shape when showing good quality, and this class of goods sells promptly on arrival. A good many of the supplies, however, consist of medium grades and this class of goods meet a slow demand, not being wanted. Pennsylvania and nearby firsts are selling at 42 cents, with current receipts at 41 cents; seconds, at 37½ cents; western extra firsts, 42c; firsts, 41c; seconds, 87½c. Southern eggs range from 39 to 40 cents.

YORK PRODUCE MARKET

York, Pa., Sept. 15, 1917.

The markets were well attended this week, but scarcity of labor and the press of fall work has kept many farmers at home. This will be more noticeable for the next six weeks as all the help that can be gotten together will be needed to help get the fall work away. This season has seen the lowest sweet corn crop we have had for ten years. This would have been partly remedied by the heavy planting of late corn but the frosts this week ended all that. Not only the sweet corn was hit but quite a little of the field corn was not fully matured. There was much urging that the farmers plant buckwheat, soup beans, etc., and after paying high prices for the seed much of these crops are lost by the frost. Prices are stiffening up on nearly all lines of produce. The supply of eggs are nearly all shipped away as the home consumers will not meet the city prices. Butter is not plentiful and of very poor quality.

Eggs.—42@45c per dozen.

Butter.—Country, 40@45c lb; separator, 42@48c. Milk, 10c quart.

Poultry.—Hens, 19@21c lb; springers, 20c; dressed, 60c@$1.50 each.

Vegetables.—Potatoes, 12@18c ½ pk; $1.15@1.25 bushel. Cabbage, 2@8c hd. Lettuce, 3@5c head. Beets, 3c bunch. Onions, 8@10c box; 10@12c ¼-pk. Lima beans, 18@22c quart. Soup beans, 35c qt. Celery, 5@8c stalk. Tomatoes, 10c box; 20@30c ½-pk. Turnips, 10@15c ½ pk. Corn, 18@25c doz. Eggplants, 3@8c each.

Fruit.—Apples, 10@25c ½-pk. Plums, 3@10c qt. Peaches, 10c box; 50@$1 basket. Canteloupes, 3@8c each. Water melons, 25@35c each. Pears, 6@8c box; 15@20c ½-pk.

Retail Grain Market.—Wheat, $2.15; corn, $2.10; oats, 75c; rye, $1.45; bran, $2 cwt; middlings, $3 per cwt.

Wholesale Grain Market. — Wheat, $2; corn, $1.90; oats, 65c; rye, $1.25; bran, $37 per ton; middlings, $48 per ton.

LANCASTER PRODUCE

Lancaster, Pa., Sept. 17, 1917.

With the peach season waning, prices today advanced 25 cents a basket. There was an over-supply of eggs, but the price of 48 cents a dozen was maintained and many of the sales were for 50 cents. There was a brisk demand for corn at 30 cents.

Butter and Eggs.—Creamery butter, 50c lb; country butter, 48c; eggs, 48@50c doz.

Poultry. — Old chickens, dressed, $1@1.25; young chickens, dressed, 75c@$1; live chickens, $1.50@2 per pair; live chickens, old, 18c per lb.

Vegetables and Fruits. — Tomatoes, 60@90c per basket; do., 12@15c ½-pk; parsnips, 5c box; spinach, 5c ½-pk; new turnips, 5@10c ½-pk; carrots, 5c bunch; potatoes, 12@18c ½-pk; $1.10@1.30 bushel; sweet potatoes, 30c ½-pk; cabbage, 2@8c head; pickles, 40@50c per 100; eggplant, 5@10c each; cauliflower, 15@20c head; lettuce, 5@12c head; squash, 4@5c each; lima beans, 10c pint; new beans, 20c ½-pk; corn, 15@25c per dozen; watermelons, 40@60c each; peaches, 20c ½-pk; $1@1.25 basket; pears, 15c ½-pk; cantaloupes, 3@20c each; apples, 10@20c ½-pk.

Grain Market.—Wheat, $2 per bu; damp wheat, $1.70 per bushel; ear corn, $1.80; corn, $2.08 per bushel; rye, $1.55 per bushel; timothy hay, $18@19 per ton; mixed hay, $16@18 per ton; wheat straw, $11@12 per ton.

NEW YORK PRODUCE

New York City, Sept. 17, 1917.

The butter market was slow on account of the Hebrew Holidays, altho prices remained firm. Little trading in cheese but market steady. Poultry market in nominal condition. Apples bringing former prices. Potatoes firm.

Butter.—Creamery, extras (92 score), per pound, 44c; higher score, 44¾@45½c; thirds to firsts, 40@44c; state dairy, 38@43c; ladles, 37@40c.

Cheese. — Fresh colored specials, 25@25½c; white, 24½@25c; undergrades, 12@19½c.

Eggs. — Fresh gathered extras, 45@46c; extra firsts, 43@44c; nearby white, fine to fancy, 55@58c; ordinary to good, 42@55c; browns, 47@50c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 33@36c; old roosters, 22c; squabs, $1.00@4.75 per dozen. Spring ducks, per lb., 21@23c; turkeys, fresh killed, 22@24c.

Live Poultry.—Fowls, fancy, heavy, 28c lb; do., average run 27c; do., small or poor, 25; chickens, fancy, heavy, 29c; do., average run, heavy, 27c; do., average run, Leghorn, 27c; do., small or poor, 26@27c; old roosters, 18c.

Vegetables and Greens.—Beans, per bu. basket, 50c@$1.25. Beets, per bbl., $1.50@2.50. Onions, per 100-lb. bag, $1.75@3.50. Potatoes, Jersey, $2.25@3.60 per bbl. Carrots, $1.75@2.25 per bbl. Corn, per 100, $1@2.25; cucumbers, 75c@$1.50 bss; peppers, per bbl., $2@3.50; tomatoes, Jersey, $1@2.25 per box.

Apples.—Wealthy, $3@6 per barrel; Duchess $3@5; Gravenstein, $3@6; Summer Pippin, $2.50@5; ordinary sorts, $2@4.50.

Peaches.—Delaware and Maryland, 75c@$1.50 carrier; Delaware and Maryland, 40@90c basket; Jersey, Elberta, $1.25@2 per carrier; do., Belle of Georgia, $1@1.75 per carrier; do., other kinds, 75c@$1.50 per carrier; do., 50c@$1 bushel basket; do., 25@60c per basket; Pennsylvania 60c@$1.75 per carrier.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., Sept. 17, 1917.

The receipts of cattle for today's market were 191 cars, as compared with 203 cars last Monday and 278 cars the corresponding Monday in 1916.

Today's supply came from the following points of shipment: Virginia, 107 cars; Chicago, 42; St. Paul, 3; Pittsburgh, 13; New York State, 7; Maryland, 7; Buffalo, 5; Pennsylvania, 4; Indianapolis, 2; Detroit, 1.

Today's was the highest market in the history of the local cattle trade for beef steers, and for strictly good butcher heifers. In fact, anything in the butcher cattle line from a fair kind up to the best sold 25 to 40 cents higher. Some sales looked more than 50 cents higher. The only line of butcher stuff in which there wasn't activity was the light weight common quality heifer class.

The best load of beef steers on sale came from Chicago, weighed 1,210 pounds, had quality and a fair amount of flesh and fat. They sold at $13.40 per cwt. One carload of Virginia steers, that weighed 1,200 pounds, and had quite a little fat, sold at $13.15. Another carload of Virginia's weighed 1,151 and sold at $12.90, and still another car weighed 1,190 and went to a New York butcher at $12.85.

The best carload of heifers on sale were W. Virginia spayed Herefords that weighed 1,040 and the price was $11.65. One carload of handy kind of Virginia steers weighed 1,102 pounds and sold at $12.59. Another car of a pretty good grade of Virginia steers weighed 1,125 and sold at $12.00. Quite a number of cars of a fair grade of killers, some of which came from Virginia, and some from Western markets, weighed 1,000 to 1,100 pounds, and sold at $11.30 to $11.75.

There were several cars of grass-fed butcher steers on sale that came from Maryland, and weighed 1,050 to 1,100 pounds, and sold fom $11.75 to $12.25. The class of butcher steers that sold at $10 to $10.75 didn't look as if they would make very "juicy" meat. Of course there was a class of butcher steers weighing 800 to 900 pounds that sold from $8.75 to $9.50, but they were not much. A pretty good grade of Virginia heifers weighing 800 to 850 pounds sold at $9.25 to $10. A common to fair kind weighing from 600 to 800 pounds sold all the way from $6.50 to $8.50 according to quality. A few small bunches of prime fat cows, weighing 1,100 pounds, went at $9 to $9.25, but $8 to $8.50 took the class of butcher cows that the trade called "good".

The stocker and feeder market was active, particularly for the good kinds. The attendance of farmers was large and those who came evidently determined to take some home with them, having concluded no doubt that their holding off for lower prices would not get them anything.

Unquestionably, feedes sold higher today than ever before in the history of the Lancaster cattle market, and some of those who failed to take the writer's advice in July, which advice was renewed last week, frankly admitted today that they ought to have done so.

Prices ruled strong 25 cents higher on everything desirable, in fact, some sales looked 40 to 50 cents higher than last week for cattle of the same weight and quality. One bunch of 15 head of steers that had been grazed in Maryland, and weighed 1,025 pounds, were taken by Mr. Amos Musser, of Mt. Joy, Lancaster County, at the record-breaking feeder price of $12 per cwt. They were good ones, but not the best that ever grew. A feature of the day's trading was the sale of 1 pure "White" Durham steer that came from Virginia and weighed 1,360 pounds. A York County buyer gave up $20 a hundred for him, and announced that he intended to fed him and make him real "ripe". Two cars of feeders that were good in flesh but rather weak in quality went to a Dauphin County farmer at $11.25. They weighed 1,090 pounds average. Another bunch of 30 head of 1,028 pounds Maryland steers were taken by a Chester County farmer at $11 cwt. A farmer from Old Berks had the nerve to buy a good-sized bunch of a nice kind of 885-pound steers at $10.50. Lebanon County buyers took several lots of good quality red cattle, weighing 830 to 880 pounds at $9.65 to $10 per cwt. One bunch of 20 head of Canadian horned feeders weighed 900 pounds and sold at $9.50. Another bunch of Canadian horned steers that weighed 800 pounds, and were not strong on quality, sold at $9 per cwt. A fair kind of 750- to 850-pound steers sold at $8.25 to $8.75. An ordinary grade of the same weights sold at $7.50 to $8. Common light weight stockers sold at $6.90 to $7.25 and some very trashy little stuff that didn't look particularly robust, weighed 350 to 450 pounds, and sold at $6.25 to $6.60. Stock bulls were in fair supply and sold about steady. A few fancy ones sold at $9 to $9.50; a good kind at $8.50; a fair kind at $7.50 to $8, and common ones at $6.90 to $7.25.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Sept. 17, 1917.

Baled Hay and Straw.—Receipts, 756 tons of hay and 3 cars of straw. Arrivals of hay were heavy, but only a small proportion of the receipts was for local use. Wholesale trade, as usual on Saturday, was quiet, but offerings were firmly maintained. Straw was quiet but firm.

Timothy hay, No. 1, large bales, $21; No. 1, small bales, $21; No. 2, $19@20; No. 3, $16@17; sample, $11@13. Clover-mixed hay—Light mixed, $19@19.50; No. 1 do., $17.50@18; No. 2 do., $15.50@16.

Straw.—No. 1, straight rye, $13@13.50; No. 2 do., $12@12.50; No. 1 tangled rye, $12@12.50; No. 2 do., $11@11.50; No. 1 wheat straw, $11@11.50; No. 2 do., $10@10.50; No. 1 oat straw, $11@11.50; No. 2 do., $9.50@10.

Bran.—The market ruled firm under light offerings, but demand was only moderate. Quotations, car lots, including sacks:

Soft winter bran, in 100-lb. sacks, per ton, $37; spring bran, in 100-lb. sacks, per ton, $35@$35.50.

PITTSBURGH HAY AND GRAIN MARKET

Pittsburgh, Pa., Sept. 17, 1917.

Hay.—Hay to this market continues extremely light, unable to get sufficient to meet the demand. Prices still continue to advance. We do not fear any serious outbreak in the market as the majority of shippers are unable to get cars, railroads giving preference to war munitions and other necessities to the carrying on of government affairs.

No. 1 timothy, $21.75@$22; No. 2 timothy, $20@21; No. 3 timothy, $17.50@18; No. 1 light mixed, $19.50@20; No. 1 clover mixed, $18.50@19; No. 2 clover mixed, $16.50@17.50; No. 1 clover, $19@19.50; No. 2 clover, $16@17.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Sept. 17, 1917.

Butter.—The usual Saturday quietude prevailed in this market and prices were unchanged. The top rate was obtainable for fancy solid-packed creamery, while the undergrades were pretty well cleaned up at inside figures. Prints of fine quality were scarce and firm, but there was some unattractive stock around, which was quiet.

Western, fresh, solid-packed creamery, fancy specials, 47c; extra, 45@46c; extra firsts, 44c; firsts, 43½c; seconds, 42½c; nearby prints, fancy, 49c; average, extras, 47@48c; firsts, 44@45c; seconds, 43c; special fancy brands of prices were jobbing at 52@55c.

Cheese.—Demand was only moderate, but offerings were light and the market ruled firm at the recent advance.

New York full cream, fancy, June, 26¾@27c; specials higher; do., fresh made, best, 25¾@26½c; do., choice, 25@25½c; do., fair to good, 24@24½c.

NEW YORK MILK MARKET

New York City, Sept. 17, 1917.

"The market is all shot to pieces," said the milk agent of one of the railroads entering this market, a few days ago. "The producers are asking more for their milk. Freight rates are going up. The Jewish holidays are here. The surplus is not less than 14,000 cans a week, enough if turned into butter to cut the price. There was never before any such condition in September. In the course of the last two decades the price of milk to the producer has gone up 550 percent, the cost of feed 425 percent and the price of butter 366 percent. On our line, twenty years ago, we carried 3,000 cans a day produced by 35,000 cows. We now carry 7,000 cans, the product of 30,000 cows. Something has stimulated the breeding of more profitable cows. While the number of cows may have grown less, their productivity has increased more than enough to make up for it. And now no one knows what the situation will be a month ahead."

He summed up the feelings of the dealers at the present moment. They were somewhat non-plussed to read on the same page of their paper on Saturday morning that the directors of the Dairymen's League had decided at Syracuse that the rates for October and November should be $3.10 and $3.34 a hundred for 3 percent milk, and that at Washington, Milo D. Campbell, president of the National Milk Producers' Federation, had agreed with Mr. Hoover that milk contracts should for the time being run for only a month at a time, because there was a possibility that the price of feed could be cut, and there would be no need to increase the price to the consumer. The dealers say that the new rates named by the Dairymen's League mean from 1½ to 2 cents increase in the retail rate. This, they say, will tend to further reduce the demand. Whether they will accept the rates named by the Dairymen's League depends upon what Mr. Hoover suggests. They expected to put the question up to him early this week. They say that they do not propose any longer to carry the surplus and that, therefore, many creameries will be closed. They plan to buy only what they want.

The League rates for September for Grade B (barn score 55) to the producer in the 26-cent zone are $2.55 a hundred for 3 percent milk; $2.75, or 5.86 cents a quart for 3.6 percent and $2.90 for 4 percent.

The receipts of milk and cream in 40-quart cans for the week ending Sept. 15, were as follows:

Railroad	Milk	Cream
Erie	43,121	1,084
Susquehanna	4,129	7
West Shore	11,766	1,321
Lackawanna	65,287	2,090
N. Y. Central (long haul) including Rutland	129,381	3,257
Ontario	36,190	3,220
Lehigh Valley	39,648	1,186
New Haven	2,767	10
Pennsylvania	11,975	495
Other sources	6,896	236
Totals	351,160	12,906

ELGIN BUTTER MARKET

Elgin, Ill., Sept. 15, 1917.

Butter, 43c bid; no sales; no offerings.

TOBACCO MARKET

The selling situation was still blockaded by the inclination of growers to await later developments in values and maturity of crop. The prevailing offer of $20 per cwt. attracted little attention, and buyers are more and more of the opinion that growers are not to be stampeded as in former years and even this year in some of the cigar tobacco states. Reflecting the market outlook, we have an advertisement now appearing in the Pennsylvania locality warning growers not to sell at less than $25 to $30 per cwt. for wrappers. $10 to $15 for sized fillers, $16 to $10 for scraps and trash and $15 to $20 thru for hail and frost damaged. The advertiser informs growers if unable to get the above prices to call at his office December 10th to 15th. The week brought the first "shivery" conditions of the season and low temperature and light frosts were reported in many places. There should be no alarm on that account as this early cold is, according to the nature of things, an indication of favorable weather for weeks to come. It is better to take some chances than to cut green and immature tobacco. The local tobacco industry will be well represented at the Lancaster fair next week. It is stated that former exhibits, while good, have not been in keeping with an industry bringing the community some four to five million dollars annually and that this year, by special effort on the part of the Tobacco Growers' Association and Experiment Station representatives, a truly representative and commendable display will be made.—H. E. Tweed, Sept. 17, 1917.

Dairy Cattle

Public Sale--40 Head Maple Lawn Farm Holsteins

I will have 40 Holsteins of merit, both registered and high grades, of all ages at the Stoneboro, Pa., Fair and will sell all at public auction the last day, Sept. 28. Plan to attend.

C. W. Ellis, Jr., Cortland, N. Y.

Spot Farm Holsteins $15 to $20

For high grade calves either sex express paid in lots of 5. 40 large high grade and 12 registered Holstein cows due in Aug. and Sept. 35 registered heifers 1 to 2 years old. 40 high grade heifers, and registered bulls.
JOHN C. REAGAN, Tully, N. Y.

"NO HORNS" Naturally Polled Holstein-Friesian

bull calves, sired by a son of the World's Record senior 4 yr. old, 1294.7 lb. butter in 365 days, at $100 and up. Descriptive catalog for stamp.
GEO. E. STEVENSON & SONS, Clarks Summit, Pa

STEVENS FARM HOLSTEINS

Grade Holstein heifer calves $15 to $20, sired by a son of a 20 lb. cow who has a 26 lb. full sister. Dams to these calves are some of the greatest producing cows in Cortland County. Two grade calves & reg. bull calf, $60.
PAUL H. STEVENS, CORTLAND, N. Y.

High Grade Holstein Calves

Either sex, beautifully marked, $20 each. Reg. Holstein cows, heifer and bull calves, shipped anywhere.
F. H WOOD, BOX A, CORTLAND, N. Y.

Holsteins Herd of 35 cows, 15 heifers, 5 bulls to choose from. Half grade and half registered. All have a 3-year cow testing association record for milk production. Some with A. R. O. records. Pamlyn Farm, Fairview Village, Pa. (near Norristown)

Holstein Calves 4 registered heifers, 3 bulls from a 30 lb. sire; also 2 record cows. Write for prices and pedigrees.
WALTER M. CRUTTENDEN, Wilkes Barre, Pa.

Belle Alto Guernseys Registered Promising young bulls for sale, 1 to 6 mos. at very reasonable prices. M. H. McCallum, Mgr. Belle Alto Farm, Wernersville, Pa.

Reg. Holsteins Pair of young cows. One has creditable A. R. O. record. Both are big cows and good producers. Bred and priced right.
WILLIAM S. KER, R. D. 9, CARLISLE, PA.

Holstein Bulls from A. R. O. dams. Write your wants; they are priced to sell. M. E Baschoar, Crystal Spring Stock Farm, Littlestown, Pa

Jersey Calves Both sexes. Fine stock of the most noted pedigrees in the world. FRED G. W. RUNK, ALLENTOWN, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd.
BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Registered Holstein bull calves from a ton show bull and heavy milking dams. Best breeding. Write
I. V. OTTO, CARLISLE, PENNA.

Guernseys & Cheshires The quality cow and the quality pig. Let us know your future needs. Fred W. Card & Son, Sylvania, Pa.

AYRSHIRE BULL CALVES Advance Registry ancestry. Priced to sell. They will improve your herd.
ROBERT TEMPLETON & SON, ULSTER, PA.

Poultry

S. C. W. Leghorns "Tom Barron Strain." The large kind, prolific layers. Breeding stock for sale. 1 1-2 lb. cockerels from imported high record sires, $1.25 each, five or more $1 each. These cockerels will cost you $10 next season. Order from adv. IVYWOOD POULTRY FARM, Box 71 A. Avondale, Chester Co., Pa.

S. C. White Leghorn baby chix, pullets, hatching eggs, 250 egg strain. Long deep bodies, yellow legs & beaks & large red lop-over combs.
A. R. GRAVES, R. D. 2, REXVILLE, N. Y.

S. C. White Leghorn yearling hens and cockerels for sale. Tom Barron Strain. Prices low on these wonderful layers.
C. P. SHIREY, STEWARTSTOWN, PA.

S. C. W. Leghorns pullets & cockerels. March hatch, from 200 to 230 egg hens. Cockerels at $2 ea.—3 for $5 for Oct. delivery only, at these prices. Hidri View Farm, Box 17, Mt. Bethel, Pa.

Chicks S. C. W. Leghorns 6c & up. Money refunded for dead chicks. Circular free.
W. A. LAUVER, McAllisterville, Pa.

White Rock Pullets Early hatch $1.25 each this month only.
MOHEGAN FARM, Box M, Peekskill, N. Y.

HENS S. C. White Leghorn yearlings Barron—Wycoff strain $1.25.
R. S. GOOD, PEACH BOTTOM, PENNA.

Sheep and Dogs

HOUNDS—HOUNDS—HOUNDS
Fox, coon & rabbit hounds, broke to gun & field; young hounds on hand; also ferrets at $4 ea. Send for photos.
H. C. LYTLE, FREDERICKSBURG, OHIO.

Rams for Sale 3 thorobred Shropshire rams; very high quality. James Mac Dougall Supt. Valley Hill Farms, Rt. 4, Phoenixville, Pa.

Rams Wanted 2 thorobred Shropshires; must be high quality. James MacDougall Supt. Valley Hill Farms, Rt. 4, Phoenixville, Pa

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Chronic Lymphangitis. — I have a five-year-old mare that has swollen hind leg, also one-half of udder occasionally swells on same side as leg is affected. She had colt some three months ago at which time she had first attack. This mare is not worked but runs in lot. After each attack her milk flow seems to materially lessen and the foal is not thriving. W. H. K., Lemaster, Pa.—Give her one-dram doses acetate potash in either feed or drinking water, twice daily. Rub swollen portion of udder with one part tincture iodine and nine parts camphorated oil, twice a week, or if you will gently hand rub swollen part of bag twice a day you need not apply any drugs. She should have plenty of exercise and bowels kept open. The colt should be fed some bran and ground oats, twice a day.

Weak Back. — I have a colt, 4½ months old, that seems to be in good health, but is rather weak. When he walks his hind quarters are inclined to sway from side to side, and I would like to know how to cure him. G. E. H., Williamson, Pa.—Your colt has perhaps met with an injury of some kind, possibly done while turning suddenly and wrenching back. Apply equal parts turpentine, aqua ammonia and raw linseed oil to back, twice a week. Give him ten drops fluid extract nux vomica at dose in feed or drinking water, three times daily. His bowels should be kept open and he should be well fed.

Sweeney — Indigestion. — We have been working our three-year-old filly since spring and find both of her shoulders have sweenied some. She was worked in a nice-fitting collar with sweat pad; therefore, we do not believe this the result of bad-fitting collar. We also have a three-months-old pig that is not thriving. He stands with back arched. His eyesight is not very good. We feed him middlings, oil meal, tankage, whey, and he is running on good pasture. C. D. W., Ovid, N. Y. — I am inclined to believe that your filly had reduced flesh since working her and perhaps the shoulder muscles are none too well developed. Apply equal parts turpentine, aqua ammonia and olive oil to atrophied muscles, three times a week. She should be fed plenty of oats, hay and grass. Give your pig two or three tablespoons of castor oil which will purge him, then mix together equal parts cooking soda, ginger, gentian and powdered charcoal. Give a teaspoonful at a dose in feed, twice a day.

Feeding Questions.—I have a brood sow with a litter of ten pigs three weeks old; can I raise them and make a profit at the present prices of feed, $3.25 for coarse corn meal, and $2.85 for re-ground bran? I am unable to buy white middlings at any price and can seldom secure linseed meal. Have two cows, but wish to raise my two calves, so have little milk and only a small pen or yard in which to keep my pigs. Therefore, I must cut clover hay and other feed for them. Will have some rye to grind after threshing; however, I am an elderly woman living alone, must hire all my team work done, which is very expensive around here. I also have three-quarters of an acre of beans and some sweet corn sowed. Now what I would like to know is, could I keep the pigs under these conditions and make a profit, or had I better sell them for $4.50 or $5 each right away? Mrs. S. W., Reading, Pa.—All things considered, I advise you to sell the pigs at weaning time, for the most you can get for them, as there is always more or less risk with pigs that are confined in close quarters. The high price of feed, labor, etc., makes it impossible to raise pigs on a small scale and make much profit; furthermore, your pigs, in their present condition, will bring a good price, therefore they ought to be sold.

Indigestion—Worms.—I have a six-year-old mare in a run-down condition and would like to know what to do for her. Some time ago this same mare was troubled with worms. I gave her commercial remedies which I thought did her some good; but she may yet be troubled with worms. E. R. H., Fernwood, Pa. — Mix together equal parts of cooking soda, salt, powdered sulphate iron, ginger, gention, red cinchona and charcoal and give your mare a tablespoonful or two at a dose in feed, two or three times a day. Also give her 2 drs. acetate of potash in feed or drinking water night and morning until her kidneys act freely. Her food supply should be increased, as she is perhaps not fed enough grain.

Tuberculosis of the Liver.—On killing one of my hens which had the appearance of being a well fowl, I found the liver and heart filled with white spots; I lost a number last winter from the same complaint, only in a more advanced stage. They are fed commercial scratch feed and bran with plenty of grit and oyster shells. I also aim to clean my coops once a week. C. H., Bound Brook, N. J. — Your poultry suffer from tuberculosis, perhaps the result of feeding them milk from tubercular cows, or from eating the infected scrap. There is no remedy for this ailment.

Chronic Scours. — Heifer calf four and a half months old has been troubled with scours for some time. A former calf from this same cow suffered from a similar ailment and died when eight or nine months old. I feed the calf some skim milk occasionally. A. F., Bellefonte, Pa. — Give your calf 30 grs. of salol at a dose in feed, three times a day. Mix together equal parts of ginger, gentian and powdered charcoal and give it a tablespoonful or two in feed, twice a day.

COUNTY NOTES

Crawford Co., Pa., (N.W.) Sept. 3.—Cool and wet for two weeks. Wheat threshing out fair. The milk strike is settled temporarily. Butter has been from 30 to 35 cents; will be higher soon. Eggs, 40 to 42c; potatoes, $1.50 retail; apples, 25c pk. Corn is very late. Tomatoes rotting. Oats not all cut; some growing in shock; but few in barns. A few threshed about 40 bushels; is quite good. Plowing for wheat.—J. F. S.

Huntingdon Co., Pa., (C.) Sept. 1.—Weather has been quite dry, with some light showers the past week. Nights are cool. Some hogs, cattle and sheep are selling at good prices. Grain is being threshed and yield is some above average. Dry weather has affected corn and buckwheat; some very poor fields of both. Wheat about $2; oats, 70c; chop, $3 ton; beans, 18c lb; lambs, 12c; hogs, 14c; butter, 30c; eggs, 38c. A large acreage is being prepared for fall seeding. More fertilizer will be used than usual. Seeding will start about Sept. 10. Grasshoppers very plentiful and doing much damage in places.—C. S. G.

Cumberland Co., N. J., (S.) Aug. 31.—The weather is cool but still quite dry. Many farmers are thru digging potatoes. The price has been going down this week; it is now $2.70 per 180-lb. bbl. Earlier in the season the price was $4.30 per bbl. Tomatoes are beginning to move to market; the price has been very good. Some buyers have paid better than 90 cents per basket. Indications are that the tomato crop will be a very heavy one. Some of the canneries are paying as high as $16 per ton.—E. H. S.

Care in harvesting and packing perishables will mean more food because waste is reduced. Improved refrigerator cars are being used on many railroads, thus stopping another source of waste.

Five counties in New York State now have one or more live stock clubs formed of patriotic boys and girls who are raising pigs, calves, or sheep with the help of local bankers. Ask your bank about these clubs.

Spray the peaches this fall to protect them against peach leaf curl. Use lime sulphur 1-8 if scale is present, otherwise a 1-15 mixture.

The fruit committee of the New York Food Supply Commission urges that fruit be used as near the point of production as possible, citing the case of peaches being shipped from Michigan to New York and New York peaches to Michigan as an example of the unnecessary use of cars, a great addition to the cost to the consumer, and a detriment to the fruit itself.

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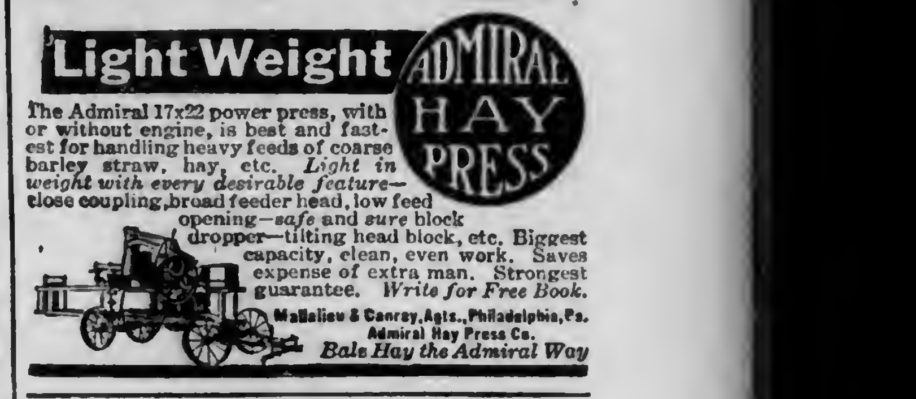
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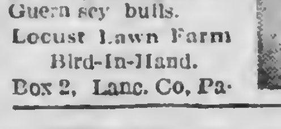
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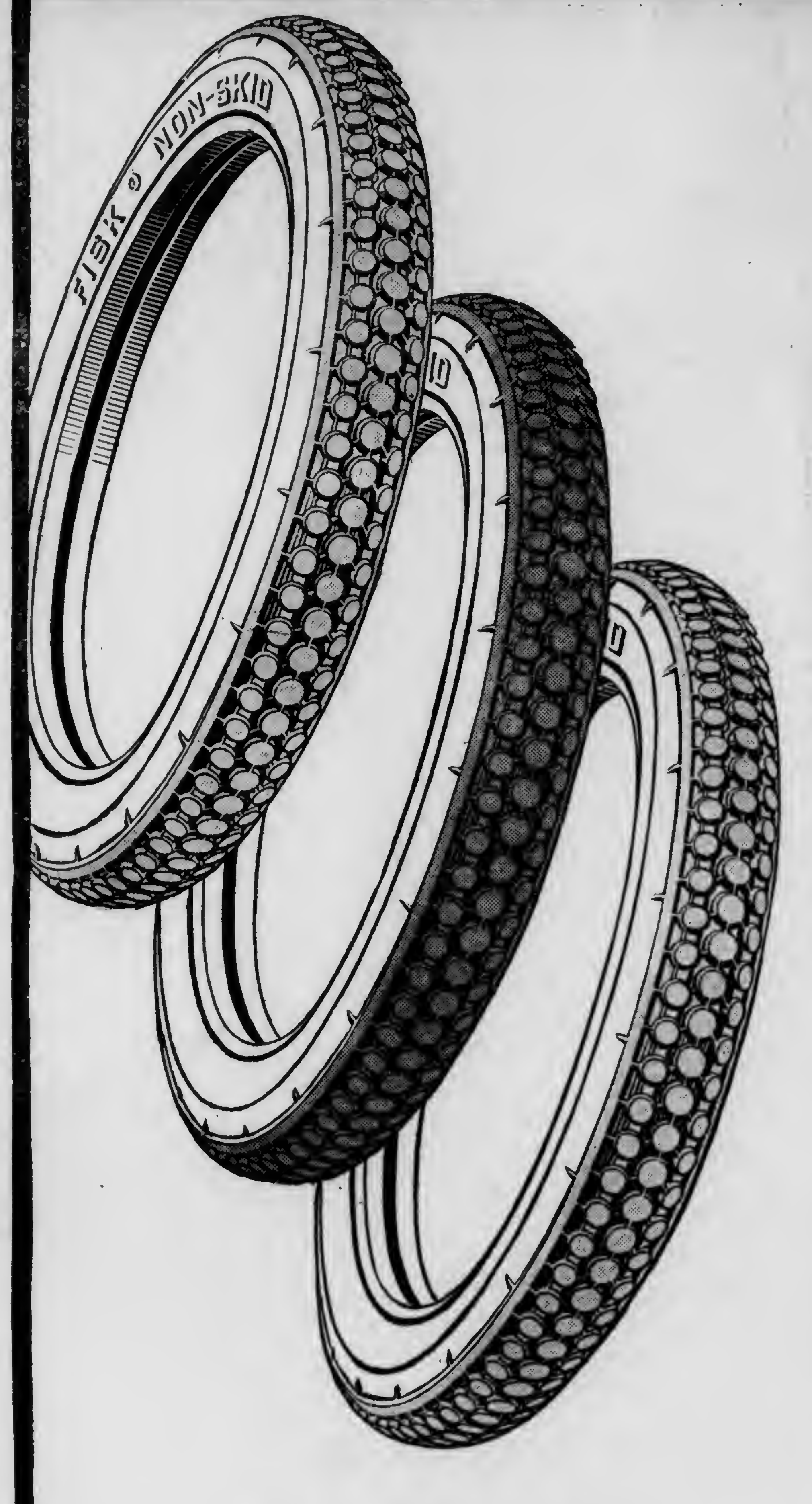

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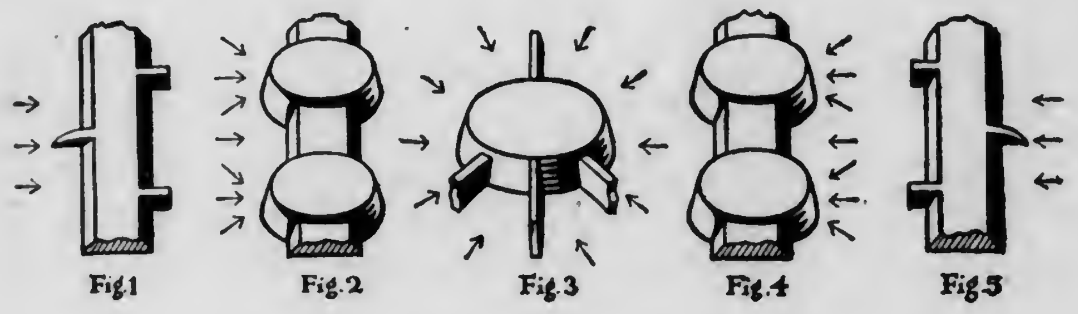

Fig. 1 is the outside rib that makes an uninterrupted counter against direct side slipping or skidding—Fig. 5 is the same protection on the other side of the tread.

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No Place Now for The Scrub Bull

High Feed and Labor Costs Condemn the Poor Cow and the Scrub Bull

By PAUL T. MENZEL

KENT COUNTY, DELAWARE.

In this national crisis every loyal American is striving to do his utmost for the welfare of the Nation. ''Farm or Fight'' has become a universal slogan, but more thoughtful minds have narrowed the by-word to ''Fight or Farm Right''. Both city and country have come to the realization that the food producers of a nation are as essential as its bravest defenders in the first line of trenches. The present war situation only too well emphasies that the combatants are more sorely pressed for foodstuffs than for munitions and that no country is stronger on the battlefield than in the harvest field.

From the very beginning of this World's Conflict, the belligerents have been increasingly obtaining their foodstuffs from our soil. They have drawn upon our supply to such extent that food has been dangerously short for our own consumption. This has been the state of affairs when our farm workers have been of the usual number, and in view of the coming possibility of still greater shortage of farm labor, the outcome is difficult to foretell.

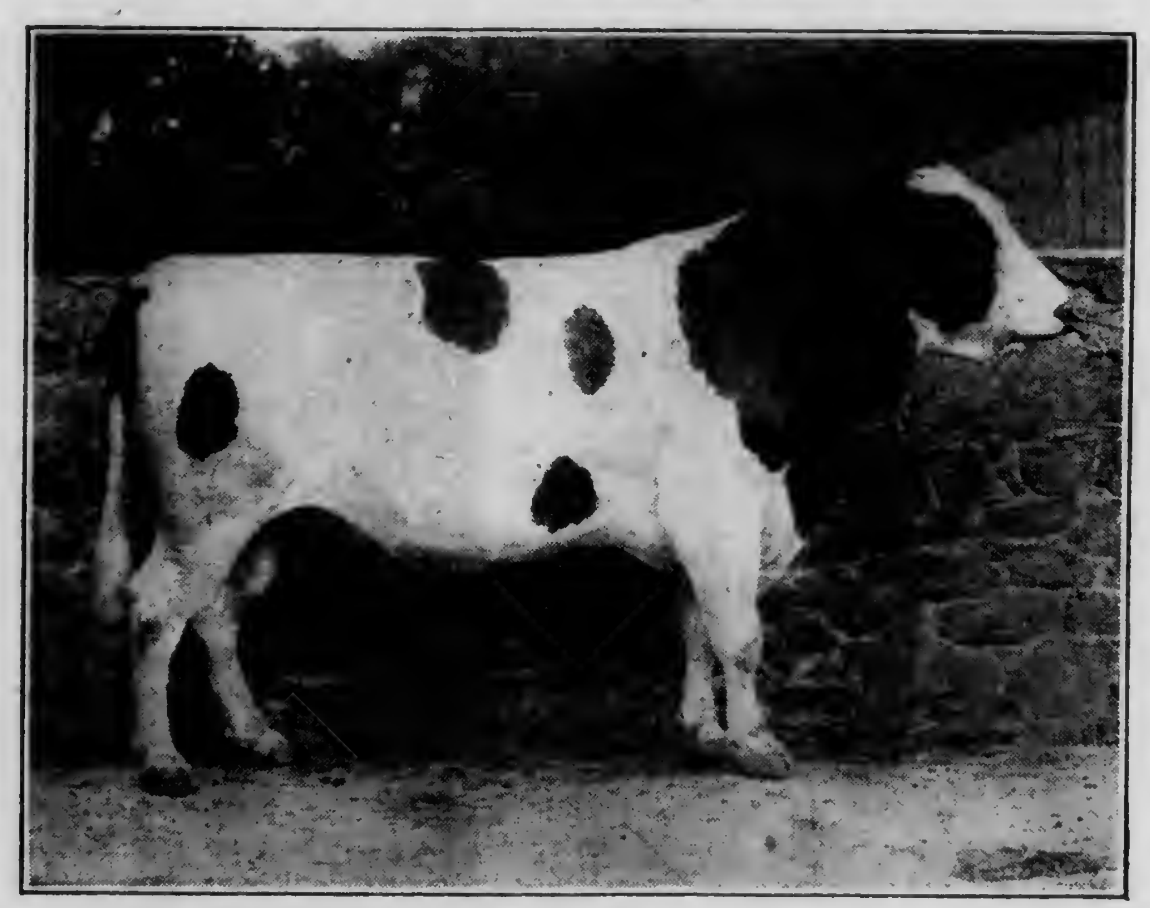
Poor Cows

A greater majority of farmers are undoubtedly doing all within their power to increase the production of staple foods. Nevertheless, the live stock industry, especially dairying, is needful of improved methods of feeding and the elimination of unprofitable animals. If we may judge by the statistics of the Department of Agriculture, which show that 14,000,000 of the 22,000,000 dairy cows of the country are unprofitable, and that half of these are inherently so poor that no system of feeding would enable them to return a profit, then there are 7,000,000 cows in the country that are wasting feed. Therefore this number could eventually be safely turned into beef to increase a deficient meat supply. The feed now consumed by the third which could not be made profitable would in all probability return a profit from the other half of the 14,000,000. It is therefore a patriotic duty to detect and eliminate a poor cow which has had a fair chance to show her best ability.

Strong as the appeal to patriotic duty may be, self-interest never fails to arouse a more willing ear. Most farmers appreciate being shown leaks in their profits that can be stopped up if he will only listen and act. Many men, however, listen to suggestions for improved methods which make for bigger bank accounts but in spite of themselves continue to employ their old way of doing things. Necessity alone and often financial losses will bring about the needed reforms.

Such men have heard the preaching of the apostles of the ''Better Cow'' for a decade and have nodded their heads in approval, but have not yet turned from their obsolete methods. Many have never seen a good cow and it would take a miracle to convince them that any cow can give 60 pounds of milk a day. They won't believe that a balanced ration will produce more milk at a lower cost than a mixture of bran and cornmeal. They have been content with the scrub cow and a hit and miss system of feeding. But high-priced feeds and high priced labor are pressing arguments and show that the scrub is no longer profitable. The price of milk is not as high as it ought to be, considering the cost of feeds, but no milk producer can expect the consumer to pay for the 7,000,000 inherently poor cows.

LITTER CARRIER AND MANURE PIT SAVE LABOR AT THE BARN.



SIR INKA PRILLY SEGIS 80914. SON OF KING SEGIS OWNED BY WINTERTHUR FARMS, NEWCASTLE COUNTY, DEL.

Never has there been so strong a realization of the necessity of employing modern methods of feeding and management and herd improvement by the use of sires from proven parents. There must be a revolution in the dairy industry and it must result in the elimination of the unprofitable cow. She should be given a fair trial by accurate records kept while she is under a good system of feeding and management, and subsequently judged by the testimony of the Babcock tester and the scales. If she is found wanting the butcher's block should be her destination, and then the price she brought, with that of others of her kind, should be used to buy one or more good cows.

The Profitable Cows

In view of the high cost of feeds and not a correspondingly high price for milk, many dairymen have become discouraged and declare that there is no longer any profit in milk production. Many have consequently sold their dairy cows. Their conclusion is only partly true, and true only to the extent that the ''scrub'' is no longer profitable and must make way for her better competitor. Cow testing records kept for the past year show that cows of even fair productive ability are profitable, but that poor cows are no longer paying for themselves.

Not only does the ''boarder'' prove a financial loss, but she also takes the place of an animal which could return a profit and therefore is a lost opportunity. Consequently it will not pay a farmer to keep a poor animal if he can get a better one, because of the opportunity for greater gains from a good animal. Yearly records from a Cow Testing Association show the average results per cow of various productive abilities shown in the table on page 4.

This table shows that there is a vast difference between the profits from the ordinary cows of the first class and that from the higher class. Not every farmer can afford to buy cows in the two higher clases, but there is little difference in price between the 4,000- to 5,000-lb. class and the medium classes. Records of dairy cows are not universal enough to yet standardize the value of a cow according to production and so small a percentage of cattle are tested that a buyer could not obtain tested cattle as a general thing. Those that have been tested and are profitable are rarely sold. Therefore, he who would own a good herd must breed it up himself.

(Continued on page 4.)

Preventing Soil Erosion

If one is in a woods during a rain storm, he will notice that the leaves and decayed vegetable matter act as a sponge and soak up the water as fast as it comes down. If the rain should continue too long or come down in too heavy torrents, small rivulets of clear water will begin to flow out from under the humus but will not carry away any of the soil. If one watches the action of rain upon a bare, rolling field, the result will be quite different. The rapidly falling drops will beat the soil particles together so tightly that most of the water will not be able to penetrate the ground, but will flow away in a muddy stream, carrying with it a great amount of the most valuable part of the soil. This soil is then carried by the small streams and the rivers into the ocean and lost. It has been estimated that the yearly loss to the United States by this process is more than twice the amount of ground removed from the Panama Canal and valued at billions of dollars.

When the country was still well forested, the loss from erosion was not so serious but since the trees are being cut down in large numbers, the loss becomes greater all the time. When the hillsides were covered with trees, the water was held up but now since many of them are bare, the water rushes down into the valleys carrying with it great amounts of soil which makes the hills barren and at the same time greatly damages the crops in the low lands.

Large acreages of forests on hilly ground have been cleared and used for farm land which should have been left to grow trees. Many of these hillsides are too steep to be farmed profitably because machinery can not be used on them. Since the virgin soil has lost its humus, the water flows away, and the dry, barren and unproductive ground is left. While wood would be the most profitable crop that could be grown there, it would at the same time protect the valleys below from floods.

Erosion is often quite serious on slightly rolling ground. Water that falls as rain usually has three courses to follow: That which falls upon a certain acre may be absorbed by the soil and used by the crops growing thereon; it may simply run away and be lost; or it may flow off with such rapidity that it carries with it quantities of soil, not only removing much fertility but also washing gullies which either require a great deal of labor to repair or make the field difficult to farm and at the same time create a loss of that much land area. It is the aim of good farmers to conserve all the moisture needed for the growing of the crops and to lead off the surplus so it will do the least amount of damage.

The old forests furnish the best example of how to store up the water. The soil should be kept as loose as possible, filled with decaying organic matter which will act as a sponge and gather up the water as it falls. This is accomplished by the use of stable manure and by plowing under green crops. Fields should not be left bare over winter but should have some crop on them whose roots will hold on to the soil particles and keep them from washing away and at the same time produce organic matter to be plowed under in the spring, thus again making the soil able to take care of more moisture. Deep plowing also increases the water-holding capacity.

Where the fields are large and quite rolling other means must be employed to control the water. Hillsides that are not in woods should be kept in permanent pasture or sown to alfalfa which have a good root system and resist erosion the whole year round. Such places are also good for orchards. The cultivated crops should be avoided as much as possible where damage from washing is great.

Soil washing can be prevented to a large extent by means of artificial ditches run across the hill with a plow at different places to carry away the surplus water. In some places they are made in the form of terraces and are kept there permanently.

When erosion does take place and washouts occur in spite of all precautions, it is the best plan to attend to them immediately, because the longer a gully is allowed to exist, the deeper and wider it will become, thus increasing the labor required to repair it. If the gulleys are small they can usually be fixed by filling with old fodder, brush or other debris and plowed shut. Often a few back furrows will be sufficient without doing anything else. If the washout is deep, it must be filled with stones or ground, or a dam built across the lower end so as to catch up the ground that will be carried down by subsequent rains. Scooping is usually an easier and quicker way to transport ground, if the distance is not too great, than to load it on a wagon. —W. H. Rothenberger, Montgomery Co., Pa.

MAKING DELIVERIES OF EARLY VEGETABLES ON TYLOR FARM, GLOUCESTER CO., N. J.

Inoculation of Legumes Pays

Farmers sometimes question the advisability of inoculated legumes. That legumes are benefited by inoculation has been shown by several experiment stations. The Wisconsin, Illinois and other stations have shown that inoculation gives decidedly beneficial results.

In the first place, inoculation increases the total growth of the plant, giving greater yields of hay. In most test cases the hay crop has been increased about twenty percent and in some instances it has been doubled. Not only is more hay produced, but the hay is richer in protein and consequently of higher feeding value, according to W. A. Albrecht of the Missouri College of Agriculture. Cowpea hay from plants, inoculated at the Illinois Station, contained 26 percent protein while plants not treated carried but 15½ percent of this valuable food constituent. Inoculation enables the plant to get nitrogen from the air in addition to that from the soil. This not only conserves the supply, but when the crop is turned under it increases the nitrogen content of the soil.

Inoculation, then, is beneficial because it increases the yield and improves the quality of hay and enriches the soil thru the nitrogen of the air. These benefits justify the expense and trouble of inoculation.

After-Effect of Blasting

In the minds of many persons is the idea that blasting for subsoiling or for stumping has a detrimental effect upon the properties of the soil. For the benefit of those who may thus be inclined, I wish to state that after having used many hundred pounds myself for various jobs on the farm in the past four years, I have experienced no such ill effects; in fact, quite the contrary.

My experience with explosives for farm work has been both pleasant and profitable and I am now planning in spite of the advanced price of explosives to use more in future farm work than I have previously. Subsoiling with dynamite, like plowing, must be done at the proper time for best results and using it when the ground is wet will have practically the same effect upon the land as plowing or cultivating when the soil is wet. Subsoiling must be done during the driest weather. Early fall is perhaps the best time of all to do it.

No serious loss of any crop will result if the subsoiling is done before harvesting as but a very small amount of the crop will be destroyed by the blasts—only a foot or two square around each hole and I would much rather do subsoiling then, if conditions are favorable, than to wait until after harvest, risking the proper time.

Holes should be spaced from 10 to 15 feet apart and one-quarter pound charges of 20 percent ammonia dynamite used. Detonating the charges by cap and fuse is the preferable method.

Land so treated and where the big stumps have been blasted out and the ground thoroly shaken up will produce the finest of crops for years to come. Ammunition has as great a field of service in the agricultural industry as upon the field of battle.—A. H. Harris.

Hill Selection Will Raise Potato Yield

Continued selection of potatoes from the highest-yielding hills thru several years will result in increasing the productivity of a variety. Yield, form and quality of the tubers can be noted at digging time.

By selecting seed from the highest-yielding hills at digging time rather than by the usual method without regard to productivity, potato yields were increased nine percent in a test made at the Ohio Agricultural Experiment Station. A difference of 55 percent was found in the crop from seed chosen from the highest-yielding and that from the lowest yielding hills.

When the best seed from the hill-selected potatoes was planted the second year, it yielded 26 percent more than seed chosen in the ordinary way. The product of the highest-yielding hills was 228 percent more than that from the hills of lowest yield two years previous.

High-yielding hills grown under average fertility and moisture conditions of the soil and in a full stand of plants can be chosen when the crop is dug. Form and freedom from disease as well as yield must also be taken into account in the choice of seed potatoes.

Single tests may be misleading. A hill may yield unusually well because of its environment and not because of inherent tendencies. By continuing the selection several years and discarding inferior hills, those that owe their superiority to favorable environment will be weeded out and only the offspring from productive hills will remain.

Method of Treating Seed for Smut

Several methods of treating seed for the destruction of smut spores are in use, but the best, it is believed, is the formaldehyde treatment. The grain should first be cleaned thoroly with a fanning mill so that smut balls, shriveled grain, chaff, etc., will be removed. After the grain is clean it may be spread on a floor or a tarpaulin in a layer or pile several inches thick and sprinkled with a solution of formaldehyde made by mixing 1 pound commercial formaldehyde with 45 gallons of water. An ordinary sprinkling can or a spraying machine is used and the grain is shoveled over and over until every kernel is wet. The grain is then placed in a pile and covered with sacks, blankets, or a tarpaulin for 2 hours or over night. It is then dried sufficiently to be run thru the drill, after which it may be sown. If the grain is not passed thru a fanning mill it should be placed in a vat or tank of the formaldehyde solution instead of being sprinkled. The smut balls will rise to the surface and may be skimmed off.

If the grain is not to be planted immediately, it must be dried sufficiently to prevent spoiling when placed in bins. If planted while damp and swollen, more grain by measure must be used to allow for the expansion.

Queries and Comments

(This department is open to all of our subscribers. Queries and short comments are invited. Queries will be answered by best available authorities.)

Permanent Pasture

"I have a field, in corn this year, which I wish to turn to permanent pasture as soon as possible. Kindly give best method of preparing soil, time to sow, kind of seed, quantity per acre, etc."—D. T., Lancaster County, Pa.

Since it is too late to sow the seed this fall, the best plan will be to make preparations for sowing next year. If the field is not subject to washing by rains, we would recommend late fall plowing so it can settle firmly during the winter; and to be pulverized by freezing. A sufficient quantity of lime should be present in any soil for best growth of grass, and if in doubt regarding this, better apply lime in some form during the winter or spring. While August is perhaps the best month in which to sow grass alone, this would cause the field to be idle practically a whole year and it might be advisable to sow in spring, using a nurse crop. For this purpose use oats, sowing only about one bushel per acre, or barley at the same rate.

The following mixture has been found satisfactory for permanent pastures in this section: For good, well-drained land, 4 pounds Kentucky bluegrass, 2 pounds redtop, 2 pounds orchard grass, 3 pounds timothy, 1 pound meadow foxtail, 3 pounds alsike and white clover mixed.

This may seem to some like heavy seeding, but it pays to have a good, thick stand. The nurse crop should be cut early for hay so as to give the grass a better chance. Sow the mixture evenly, early in May, and cover with a weeder or light harrow. It will not be amiss to apply 300 or 400 pounds of acid phosphate per acre.

Coal Rights — Tenant's Claims

B. H., Indiana Co., Pa., asks: "A sells his farm to B, reserving the coal and mineral rights but saying nothing about how he is to get either out, or about damages. Can B make A or the company he represents pay for right of way or for damage done in taking out the coal? (2) (a) Can the landlord force his tenant to put out wheat on shares in the fall when grain acreage was not mentioned in the articles of agreement? (b) If a tenant moves on in the spring to stay one year, and the agreement is that he is to give a ninety-day notice of moving, can he leave the following spring before his time is up without being liable to prosecution? (c) Can the landlord insist that his share of the grain and feed be delivered inside of that time?"

(1) The rights of B and A will, of course, be determined absolutely by the deed by which the coal and mineral rights were reserved. If the deed contains a mere reservation, then A has the right to perform all operations necessary to the proper mining of the coal and any other minerals under the ground. He would not be subject to a claim for damages because it would be inferred that compensation for same was made in the price for which the land was sold. Of course, if A owned adjoining property under which he was operating a mine it might possibly be inferred that he was to work both properties from the one where he owned not only the mineral rights but also the surface.

(2) (a) If the lease does not provide that the tenant shall plant wheat in the fall the landlord can not compel him to do so unless there should happen to be in the lease a clause providing that the farm is to be returned to the owner in the same condition as it was when the lease was executed.

(b) Unless the lease provides to the contrary, the tenant may move off the property whenever he wishes to do so. He is, of course, responsible for the rent which must be paid as provided in the lease. To free himself from responsibility for rent he must give ninety days notice of his intention to terminate the lease before the end of the current year. Of course, he is not "liable to prosecution" because prosecution means state action for a crime alleged to have been committed. If the rent is not paid or the tenant breaks any other covenant of the lease, the landlord may commence an action at law to recover the rent or for any damage which he has suffered.

(c) A share of the grain and feed is merely a form of paying rent, and the delivery of it is determined by the terms of the lease. If the lease were executed subject to any local customs or usages, these, of course, might possibly be read into a lease by a local court. But if there is no such custom, and if there is no provision in the lease stating when this share of the grain and feed should be delivered, it is possible for the tenant to deliver it at his convenience. (Before satisfactory answers to these questions can be given the lease itself should be stated at length.)

By the Way

By

Father Penn

Success With Soybeans

When George Mason bought a farm in Bucks County four years ago and moved there from Delaware, he began at once to hunt for a soil improvement plant that would do the work which crimson clover did for him in Delaware. Soybeans were recommended to him and he began planting them in a small way. So valuable did they prove that he has gradually increased their planting until this year he had thirteen acres.

THE RESULTS OF HARD WORK, GOOD MANAGEMENT, LARGE INVESTMENT, FERTILE SOIL AND A FAVORABLE SEASON.

Not only as a soil improver have they given complete satisfaction, but as hay and forage for cattle and hogs they are very valuable. Mr. Mason raises a great many hogs and has found that they relish soybeans above almost anything else, and that they thrive upon them exceptionally well. When the writer visited his farm a few weeks ago several acres were just being mowed for hay. This will be fed to dairy cows. The field mentioned would yield about two tons of cured hay per acre.

An interesting lesson on the vitality of soybean seed could be learned in this field. Part of it was sown with seed two years old. The growth on this part was not more than two-thirds as good as on the part on which last year's seed was planted. Mr. Mason is firmly convinced that it pays to use only seed grown last year. His experience coincides with that of others that the Wilson variety is best adapted to eastern farms. About one and one-half bushels per acre are drilled.

A field of four acres was planted to ripen seed. Five pecks of seed were drilled in rows on the four acres, and the rank growth was simply loaded with pods, and the roots were full of nitrogen-gathering nodules. Mr. Mason firmly believes in inoculating, and the fact that his wheat field yielded one-third more on that part on which soybeans grew last year still more firmly convinces him that soybeans should be grown on every farm.

Seed Improvement

Perhaps the greatest undeveloped field for work in crop improvement is seed selection and breeding. Our experimenters have been devoting much time and labor during the past 30 years to experimenting with fertilizers in different combinations and quantities with a view to increasing yields; machinery has been invented for the purpose of increasing the labor power of man and for decreasing the cost. These two lines have been developed seemingly almost to the limit, but still comes the cry to produce more, and the farmer is still searching for means by which he may economically increase the returns from his acres. The one field in which little has been done, beyond sufficient to prove the possibilities, lies in the careful, persistent and intelligent selection of seed specimens which show inherent power to reproduce their exceptional kind.

There is no farm crop which may not be improved by seed selection, but the average farmer can especially and with least trouble increase his yields of corn and potatoes by following certain well-known rules. Simply picking out good specimens of either from a pile and using them for seed will not get him any place. A small ear of corn or a small potato may be just as good when taken from a common pile of either as is the best ear or potato.

The place to select seed corn is in the field before it is cut. The place to select seed potatoes is before the crop is dug, or at the time of digging. A seed ear of corn should have grown on a stalk of desirable size and strength, without any special advantages as to space or fertility, and the ear produced at a medium distance from the ground.

It must be remembered that the parents of the grains of corn are usually the surrounding stalks, and the seed ear will reproduce in kind the parent stalks. If they are poor producers, the seed may produce poor ears and small stalks, even tho the seed ear was first-class. The seed ears should be placed on racks or strings so that they will not be in contact with each other until they are fully dry. Seed corn should be stored in a dry room, proof against rats and mice.

In selecting seed potatoes, choose the hills which produce the largest number of desirable tubers. The one big potato in a hill of small ones is not so desirable as a small potato from a good producing hill. Remember that it is the stalk that gives the producing quality to all the potatoes in that hill. Hill selection is the only way by which we may know anything about the reproductive capacity of the tubers in that hill.

I once saw a most interesting exhibit which showed the value of careful hill selection. For three years the experimentor had saved seed from highest producing hills and planted them by themselves. At the same time he saved seed from the lowest producing hills and planted them separately. After following this practice carefully it was found at the end of the third year that the high producing potatoes had produced at the rate of 320 bushels per acre, while the low producers had produced only 89 bushels per acre. All other factors—soil, fertilization and cultivation—were the same. When you simply measure up the seed from the pile, how do you know from what kind of hill any single potato came?

WEATHERING OF PAINT

Cold weather, contrary to general opinion, has less effect on paint than hot weather, according to the results obtained from experiments during the last year by H. H. King, associate professor of chemistry in the Kansas State Agricultural College. The experiments were for the purpose of ascertaining what kinds of paint pigments and mixtures of these pigments together with the various drying oils are best suited to the Kansas climate.

A test fence running east and west was built a year ago. On each side were placed 65 panels of selected wood paint with 65 different kinds of white paint. A panel of each kind of paint was placed on each side so that the effects of the two exposures might be compared. The paints were all made of white pigments ground in oils, but varied as to the proportions and kinds of white lead, zinc oxide inert pigments and fillers.

The panels exposed to the hot sun were found to have undergone a greater degree of deterioration than those which had been exposed to the wind, sleet and snow on the north side.

1917 1918

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Dairy Feed Purchase Plan

Dairymen's League will Co-operate in Buying

The following is the plan that has been adopted by the Executive Committee of the Dairymen's League for purchasing dairy feeds. The purpose is to aid members in lowering feed costs and encourage storing at least a part of the winter supply. Quoting Mr. Cooper, President of the League, "It is not the purpose of the League to assume the responsibility of advising members to buy at any particular time, as it is not our purpose to attempt to forecast the market, but it is the purpose of the League to provide the best possible feed at the lowest price, and also to, so far as possible, assist the members in securing an adequate supply.

A REMINDER OF THE DAYS WHEN ENSILAGE WAS AN EXPERIMENT, AND A CAUSE OF EARLY FAILURES.

In the development of the feed recommended we have made use of the most recent information gained from the New York College of Agriculture, as well as from other sources. It will be the policy of the League to follow these lines in all feed put out by it."

Outline of Plan

1. The Dairymen's League shall establish and maintain a central Feed Office in connection with its central office in New York City. It shall immediately arrange for the manufacture and sale of feeds according to formulas approved by the New York State College of Agriculture. The endorsement of the Dairymen's League shall appear upon all the bags of all manufacturers authorized by the League. All orders for feed shall be approved and recorded in this central office. The central office shall assist in handling transportation difficulties and see to it that there are no delays in delivery.

2. Feed shall be distributed by local purchasing agents, recommended by the local branches, acceptable to the manufacturer and approved by the executive committee of the Dairymen's League. The local purchasing agent shall solicit orders, make up the car, send in orders, collect money, pay for the car, notify members when car arrives, check out car and adjust local difficulties, etc. The maximum price for feed shall be three dollars ($3.00) per ton above the wholesale price at the time purchase is made.

A member of the Dairymen's League in good standing shall receive the following discounts: If he takes an entire carload for his own consumption, pays cash and takes the feed from the car, $2.50 per ton discount. The reason for thus placing orders for carload lots thru the local purchasing agents is to secure disinterested checking of quality and quantity of feed, taking care of complaints and other usual services rendered by retail dealers. If he orders in less than carload lots, pays cash and takes feed from the car, $2.00 per ton discount. If he pays cash and takes feed from storage house within five days after notification of arrival of car, $1 per ton discount.

No discounts shall be allowed on Dairymen's League feeds sold to farmers who are not members of the League, or members who are not in good standing. The executive committee of the Dairymen's League shall furnish to each local purchasing agent a list of League members in good standing in that locality.

3. The local purchasing agent shall solicit standing orders to make up cars to maximum capacity. In case it is not possible to make a full car at convenient intervals, he should have storage space to order enough to make up the balance of the car. This extra feed will enable him to carry a feeder from one car to the next in case the feeder should run short of feed before the next car arrives.

4. Where possible it is advisable for each local branch of the Dairymen's League to recommend a local feed dealer to act as its purchasing agent under a contract which will accord with the plan in Paragraph 2. Where this is not possible, a branch shall recommend one of its members as purchasing agent, who is in a position and qualified to handle the business in a business-like way.

5. The feed shall come directly from the manufacturer put up in one hundred pound net weight bags with the guarantee that the contents of the bag are satisfactory as to quality.

6. If the feed is not satisfactory, a committee composed of the local purchasing agent, a representative of the manufacturer and the member or members receiving such feed, is authorized to make due allowance for the difference. In case no satisfactory agreement can be reached by this committee, the executive committee of the Dairymen's League shall appoint a committee who shall have full power to legislate on such matter.

7. All manufacturers in accepting an order must send the feed guaranteed in accordance with Paragraphs 5 and 6.

8. A regular wholesale price sheet shall be sent weekly to authorized local agents and the central office of the Dairymen's League by manufacturers. A special price sheet shall be issued when there is a change of fifty cents per ton in any feed listed.

9. All the business carried on thruout this system shall be done on a cash basis. This will insure all parties concerned against any liability from any source. This not only insures all parties involved, but reduces the cost of the feed which would be increased if any element of chance of failure were to enter into the plan. Cars are to be shipped draft attached to bill of lading.

10. Farmers will find it to their advantage to buy feed thru this system, not only because of better prices, but also because of the guarantee which they are able to get.

These plans are subject to change and modification by the executive committee of the Dairymen's League.

NO PLACE NOW FOR THE SCRUB BULL

(Continued from page 1.)

From the table one can easily see that if a herd averaged only 6,000 pounds it would be nearly twice as profitable as one averaging only 5,000 pounds. This is only self-evident when we know from experience that a good cow eats little if any more than a poor one, and that the 1,000 pounds of milk gained are practically a net profit. Consequently, it would be only common sense to bring the herd average up as high as possible. This is all the more significant when we consider that the average farmer can produce milk much cheaper than the specialized dairymen; the specialized dairy is usually near a big city where land and labor are high-priced. The general farmer employs no extra labor for his cattle and uses more by-products for feed and bedding.

Cow-testing Records Showing Productive Abilities

Cows giving. pounds	Butterfat average	Value of product	Cost of feed	Profit above feed
4000- 5000	178	$71.23	$40.90	$29.19
5000- 6000	222	91.24	37.31	53.84
6000- 7000	254	102.41	41.51	61.99
7000- 8000	283	107.50	41.72	71.10
8000- 9000	294	146.41	47.80	91.37
9000-10000	324	170.93	62.89	108.19

Improvement of a herd by weeding out and breeding up should result in almost clear "velvet" for the farmer. He can therefore afford to have his cattle tested to detect the boarders and to use a good bull. Countless cases are on record where a herd has more than doubled its production in ten years. By the use of bulls such as the average farmer can afford to buy, the writer knows of herds where the first generation has in some cases doubled the production of its parents, and where the whole herd showed an average improvement of 3,000 pounds above that of the parents. This particular bull was bought for $150 when a calf.

The Recorded Sire

Let us consider the purchase of this bull as a business proposition. The herd in which he was used contains about 15 cows of milking age. This year alone the owner has realized an increase of 45,000 pounds of milk, valued at $20 per 1,000 pounds, which means $900 for the product. If we allow one pound of feed for three pounds of milk increase, we have an increased feed cost of $450, counting grain at $60 per ton. However, experience of practically all milk producers shows that there is very little difference in feed cost for the better cows within the same herd. Thus we can safely conclude that the $450 difference is a net profit.

If we measure the usefulness of the bull by the average length of the production life of his daughters, which is at least five years, then he has yielded a profit of at least $2,200, not to mention the profits from the sale of his male offspring. In a herd which ten years ago contained 92 head of milking cows the annual production was 42,000 gallons, whereas now, with 82 descendants of the original females, the production is 95,000 gallons. In no case has any bull in this herd cost over $1,000. Records kept at the well-known herd of the University of Missouri offer an excellent study of the influence of various bulls. One bull used on 10 cows averaging 4,609 pounds of milk a year, got daughters averaging 7,154 pounds. An inferior bull caused an average decline of 1,044 pounds on ten dams. Since 1892 production records have been kept of this entire herd, and of the five bulls use in the experiment two increased the production, two effected a loss and one caused a standstill.

All of the bulls cited above were purebreds, showing that the mere fact that an animal is purebred is not sufficient. In former years, before the days of dairy record work and when records and testing were but little known, many progressive farmers purchased purebred bulls with the hope of improving their herds. Many have met with disappointment because their sires were simply bought with registry papers, without any records of ancestry of productive ability. It can be safely said that if every owner of a purebred bull had taken the precaution to select an animal with ancestry of proven ability on both sides there would be no disappointment, for such an animal can scarcely help but transmit milking qualities. One of the oldest breeders of Holsteins recently remarked that he never selects an animal which is not only a good individual but which also has a long consistent production record on both sides.

The price

Some farmers are prone to believe that a bull which would come up to the above standards could only be bought by a rich man. This is not the case. The writer has recently bought purebred bulls with advanced registry backing on both sides, from pure dams that produced as high as 84 pounds of milk a day, for $125, and from dam making about 60 pounds a day for $75; with butterfat tests in both cases above 4 percent. Altho these prices are unusually reasonable, equal opportunities are not uncommon if one makes a study of the breed journals and agricultural paper advertisements.

Provided one obtains his money's worth, no dollar is better spent for dairying than for a bull. It is good business to put every dollar one can afford into the bull, for the future herd can be no better than the average of the bull and the cows on which he is used. The better the bull, the higher the average.

In considering the production records of the ancestry, care should be taken to avoid a low testing strain, altho the quality of butterfat test is not necessarily transmitted. However, there is a tendency to reproduce high-testing strain. Nevertheless too much attention should not be paid to test if it is not too low, because the total profit is the ultimate aim, and experience shows that heavy milkers invariably produce enough butterfat to yield a higher profit than medium milkers with a high test. It is well to select a sire with ancestry that has been linebred, that is, along family lines, but not inbred to close relationship. Exceptions are found where the inbreeding comes from well-known animals of proven great ability.

Many farmers realize these points and agree with them, but feel that they are not capable of selecting a sire for themselves, for pedigrees and advanced registry records are rather difficult to understand by those not well acquainted with their mysteries. A little study will soon reveal the secrets of the extended pedigree and the advanced registry pedigree. The average farmer can always consult the county agent, the dairy extension agent or, better still, become a member of a cow-testing association and make good use of the help of the supervisor.

The Babcock tester, the scales and a good bull are certain means of greater profits in dairying.

ORGANIZATION ACTIVITIES

The Inter-State Milk Producers' Association organization work last week included a county meeting at Mifflintown, Juniata Co., and meetings in Lancaster Co., Pa., and Mercer Co., N. J. The progress in Juniata County has been very satisfactory and the membership already includes a large majority of the shippers in that district. Natural advantages for dairying make the producers in that section extremely anxious for co-operation. Secretary Balderston addressed the county meeting. Representatives were present from the various locals and questions concerning the local Philadelphia and National situations were discussed at length.

Reports from some sections would seem to indicate that farmers have been tempted to largely increase their output for the coming winter. It is well for all such to remember that while the outlook for the future is good, the decreased buying power of the public, coupled with the uncertainty of the feed market, will easily make a serious surplus if we are not conservative in our business methods. Fresh cows sold at $200 and over for grade Holsteins at one sale last week. This would indicate that there is a demand that has been stimulated by hopes of large returns for the winter. Let us go carefully—watching the feed market, now slowly weakening, and awaiting the report of the Hoover Commission as to a safe price for the winter.—B.

Potato Diseases.—Bulletin No. 171 of the Iowa Experiment Station, Ames, Ia., discusses results of experiments in the use of bordeaux mixture for tip burn and early blight of potatoes. In summary the bulletin says that three applications of bordeaux mixture gave an average annual increase of 10 bushels per acre; five applications gave 20 bushels per acre, and seven applications gave an increase of 22 bushels per acre over a period of five years. Five applications proved the most profitable and gave an increase of 17 percent. Three applications are not sufficient and seven applications do not pay. The bulletin is mailed from the above address.

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GREATEST DAIRY SHOW The National Dairy Show has become the greatest agricultural event of the year. Dairying is a part of general farming, and claims attention in practically every section of the country. The dairy cow produces about two billions of dollars of commerce per year, and any show catering to the interests of the dairy industry is likewise a business show. The dairy cow further furnishes about 18 percent of our daily food, and the dairy show becomes a consumers' show. The National Dairy Show, representative of every section of the country, is thus the greatest industrial and commercial event of the year. Every farmer can profit by attending it, and no progressive dairyman can afford to miss it. The Show this year will be held at Columbus, Ohio, October 18 to 27. It promises to be the best yet held. It will be larger, more representative of the entire country and will cover every phase of the dairy industry.

* * *

SAVE THE FODDER There is one product of most farms that is not conserved as it should be, and that is the corn fodder. The part of the corn crop which is not put into silos would provide more valuable feed than it does if farmers would endeavor to store and use the fodder of the husked corn more carefully. Analyses show that dry, well-preserved corn fodder contains only slightly less protein and fat, and more carbohydrates than does timothy hay. Practical experience shows that such roughage, when shredded and fed, produces better results with milk cows than timothy hay.

In order to have fodder of greatest food value, the corn must be cut before it is dead ripe, or while the stalk and leaves are quite green. If cut at this stage, well shocked, promptly husked, and the fodder put under shelter or well "ricked", the nutritive elements may be nearly all retained. If, however, it is left exposed to the weather for any length of time the loss is great. The elements of nutrition in corn stover are very soluble and it has been found that it depreciates rapidly, the loss amounting to 50 percent or more, when subjected to alternate rains and drying.

When shredded at the proper time it will furnish a great deal of valuable feed, and the refuse, or the part not eaten, makes the best kind of bedding and absorbent.

* * *

THE SCRUB BULL The scrub bull belongs in the age of the sickle and the flail. Every law of breeding condemns him. Every carefully-kept record of herd performance shows him to be a burden to the farm live stock. Every practical test shows that he is not only standing in the way of building up the quality of the animals kept, but he is leaving his baneful influence on the coming generations. There is not a single good reason for keeping him, and yet he is kept in large, altho decreasing, numbers. The earliest dairy teachers urged the destruction of the scrub bull. All that has been learned of breeding and of good dairy practice since that time has merely emphasized the truth of their teaching. The farmers who would quit farming if they had to cut their grain with a sickle and thresh it with a flail still stick to the scrub bull and the scrub stallion and the scrub sire in other classes of live stock because they fancy that the first cost is a little less. The article on the first page of this issue piles up more evidence against the scrub bull; tells the old story in new words. And the story must be told again and again.

* * *

BUYING DAIRY FEEDS On another page we publish in some detail the Dairymen's League plan for purchase of dairy feeds. This plan was announced some time ago, and it is understood that considerable progress has been made. We publish the detailed plan for the suggestions that it may carry to other dairymen. Organized buying of supplies should be much more simple than organized selling. Yet it has required the more pressing and more difficult complexities of selling to bring the dairymen into effective organization. The developments of the past two years bear out the old assertion that men will co-operate effectively only when driven to it by circumstances. The conditions surrounding the sale of milk made it necessary for the dairymen to organize and take some voice in the making of prices, or go out of business. The conditions surrounding the sale of feeds will eventually force the same organizations to take a hand in dictating the manner in which feeds shall be sold.

There are communities in which dairymen have been buying feeds collectively for a number of years. But the plan announced by the League is the first extensive venture of the kind. The plan announced may not meet the needs of all communities. Until results are demonstrated, many dairymen will question the wisdom of handling only feed mixtures that are mixed to a special standard. There are feed mixtures on the market that have given very satisfactory results, and that have been used until they have become fixed in the feeding practice on many farms. There are many feeders that prefer to buy the whole or unmixed grains and compound their own mixtures. To these, the plan would appeal more if they were enabled to buy just what they want thru the organization, but buy it at a saving. The Dairymen's League is prescribing its own mixture and probably has very good reasons for doing so. But there is no good reason why practically the same plan should not be used by any dairy organization in buying the standard grains or any of the staple mixtures.

Organized buying of feeds is certain to be one of the big results of dairy organization. Buying in small quantities thruout the year, and only as needed, and often on credit, is one of the biggest factors in keeping up the cost of production. Quantity buying on a cash basis and at the season of year when prices are lowest will result in a saving that should cut the cost of production very materially. And it is in the little savings that the yearly profits are made.

* * *

PREVENTABLE LOSS Six years ago it was suggested by a number of interested men that October 9, the 40th anniversary of the great Chicago fire, should be celebrated as "Fire Prevention Day". The idea met with favor and that date has been observed with increasing interest each year since, when it was formerly observed in 68 cities in 30 states in this country. The governors of the majority of states have issued proclamations concerning the work, and President Wilson issued the following:

> "Preventable fire is more than a private misfortune. It is a public dereliction. At a time like this of emergency and of manifest necessity for the conservation of national resources, it is more than ever a matter of deep and pressing consequence that every means should be taken to prevent this evil."

Careful investigation has proved that the majority of fires is entirely preventable and that the immense annual loss is due to nothing less than criminal carelessness. The spirit of fire prevention day should become firmly fixed in the minds of everyone so that greater caution would be exercised every day of the year and upon every occasion. Parents and teachers should consider it a part of their duty to impress lessons of care in regard to fire upon those in their charge. Factory managers, farmers and others may do much by precept and example to inculcate care on the part of others.

Everyone realizes that war is waste and deprecates the great loss occasioned by it, but fire destruction is also absolute waste of the products of effort, which loss (like that of war) is finally levied upon all. Fire, however, may be prevented, even if war cannot.

* * *

EFFECTS OF RESTRICTED TRADE Reports state that Australian markets are simply glutted with meat, a condition caused by lack of shipping facilities. Australia normally sends a great quantity of meat to the world's markets, but trading conditions are now such that transportation is greatly hindered and the product is not being distributed. The local demand is far below the supply and cattlemen face disaster if the present condition should continue for any great length of time. The Prime Minister recently conceded that, so far as he could see, there is no immediate solution for the problem confronting live stock owners who are engaged in producing meat for export. However, if sea trade conditions should become more favorable to cessation of hostilities, this situation would be relieved and these immense quantities would find an outlet.

The wool situation is in a somewhat smilar condition, altho this product is not so perishable and can stand a much longer siege of enforced embargo. These and similar conditions in other countries relative to agricultural products tell plainly why American prices on many farm products are held at the present levels. It should also indicate the possible result when the world's commerce resumes normal conditions and trade again flows freely. For these reasons, while we urge farmers to try, by extra effort, to meet present emergencies, we do not believe in striving for a permanent agricultural expansion so great as to be disastrous to agriculture when conditions become normal after the close of the war. Suddenly enlarged, or transformed, factories may again be transformed for manufacturing other products after the war, but the only use to which a farm can be put is the production of food.

* * *

TRACTOR DEMONSTRATIONS The tractor demonstration held at Plainsboro, N. J., last week was one of the largest of the kind yet held in the East. Fifteen tractors were entered, and thirteen were shown in operation in plowing. Each tractor was given plots of equal size on successive days. The first day's plowing was on corn stubble, the second on timothy sod and the third on old alfalfa sod. The visiting farmers had ample opportunity to observe the work of each on the successive days, and it was evident that the tractors won many converts to the modern idea of power farming. It is announced that the large national demonstrations will be discontinued, the manufacturers feeling that they have served their purpose. This should not be true of local demonstrations, particularly in the East, as many communities are yet to be convinced that tractors are fully adapted to eastern farm conditions. There is no question that the tractor is here to stay, and it is probable that the East will see the greatest increase in tractor purchases in the next few years. But there is need of a new kind of demonstration to fully convince the farmers of their complete adaptability.

The Plainsboro demonstration was essentially a plowing demonstration. The tractor to be of practical service in the East must do more than plow. In comparison there was little to choose between the machines in operation. All did good work, did it rapidly and with good finish at headland and dead furrow. Some differences in neatness of work and turning of stubble underground were due more to the plows used than to the tractors themselves. The comparable points were speed of work, the fuel consumption per acre, the ease of turning at headlands and the perfection and finish of the machines themselves. The latter point is largely a matter of personal opinion and the former were controlled largely by the operators.

All of the machines won friends among the visitors; some more than others. But to really demonstrate the flexibility and adaptability of the tractors, the eastern farmers will want to see these outfits fit their plots with harrows, rollers and seeders, where possible; and see them in hauling loads on farm roads and some of the other operations of the farm where power is needed. Most tractors are suited to these various uses and need to be shown.

HARRISBURG NOTES

Labor, Farms and the Draft.—Incidents observed here point clearly to the fact that farm labor is a matter of much importance to national and state defense and that the earlier a policy is laid in regard to the draft the better. There are many farmers of Pennsylvania who are at a loss to plan their crops and some have been hesitating about seeding wheat as urged owing to uncertainty of hands for next spring. Farmers as a class have been rather backward about making their claims for exemption or for extension of time to go into service and the policy of the national government to have all agricultural claims go to the president has added to the problems of the hour. The great majority of local draft boards declined to exempt farmers and farm laborers and the district appeal boards have upheld them as a rule. The next step, appeal to the president, which is allowable for industrial and agricultural cases, seems to have been taken up mainly in Lancaster County, where it has gotten mingled to a limited extent with some religious objections to military service. At the state draft registration headquarters it is held that no more consideration can be shown to the farmers than to any other citizens, but boards are told they can reopen their decisions. If each case is acted upon individually, it will prolong the uncertainty. Men here are urging farmers, who make inquiry, to accept the situation as people must do in all walks of life. State officials, who have been appealed to by farmers to aid in getting the draft matter cleared up, have been calling upon Washington for action and at the same time urging speeding up of agricultural production in the belief that if the national need is not severe extensions of time may be granted to farmers and their workers. Governor Brumbaugh, it may be added, can not entertain appeals and neither can state officials. It is a national matter alone.

Where Labor Shortage Hits.—From the best estimates obtainable it is practically certain that Pennsylvania farmers will not be able to add all of the additional wheat and rye acreage asked by the national government. The first reason seems to be uncertainty or lack of labor; the second, rotation of crops and the third, price. The state is trying to help out with seed wheat and with definite information from its bureaus of statistics and markets as to the federal price-fixing plans. The other two are real problems. It is believed that this year Pennsylvania will add one-tenth to its wheat acreage. This would mean 140,000 acres added to the 1,382,100 reported in wheat this year. The national government officers desired 14 to 15 percent increase. The state's wheat acreage was 1,325,050 acres in 1915 so that the state has been going forward and if labor is only assured will continue altho the estimated yield this year will be only 23,500,000 bushels against 25,864,192 last year, owing to weather and pests. As to rye, Pennsylvania had 265,596 acres in rye this year and has been asked to add 25 percent. It is believed that 15 percent is about what will be added, altho the advice that rye is better suited to northern counties than corn or wheat may stimulate its sowing. The rye crop this year is estimated at the Capitol at 4,450,000 bushels, whereas two years ago Pennsylvania had 271,615 acres in rye and got 4,759,564 bushels. Last year with 267,000 acres the crop was 4,681,112 bushels.

Crop Reports Better.—In spite of frosts the aggregates of the state's corn and buckwheat crops are going to be good. The value of buckwheat as a crop after grass and the price have caused this grain to be extensively sown. In many counties turnips were extensively planted after early potatoes. Grashoppers have been the worst pest encountered this year. Warning is being given by Prof. J. G. Sanders, the State Zoologist, of the coming of other pests and that because of activity in gardening this year by so many who did not take precautions next spring and summer may bring trouble.

Fire Prevention Day.—Governor Brumbaugh and Fire Marshal Port have joined in asking that October 9 be observed as a day to clean up premises and get rid of trash and rubbish. A special appeal will be made to people in the country to do their share toward removing things which are likely to cause fires. A compilation of the causes of barn fires and the loss this year is being made.

Stream Pollution.—It is expected that during the winter an arrangement will be perfected whereby more liberality in regard to stream pollution by cattle can be worked out. The state policy has been growing pretty strict the last few years, but stream inspection may ease up now. It is certain that if the farmers are to be called upon to raise more cattle and sheep there must be an abatement of regulations about streams.

Many Rural Schools.—The school-building program reported by the State Board of Education for the state outside of Philadelphia and Pittsburgh and which carried over $7,330,000 as expended in a year ending July 1, shows an unusual number of township schools. Some of the township schools were for vocational and industrial training and several had auditoriums. In all, 263 buildings were reported as constructed in spite of high prices and of this number a third were in townships or small boroughs. The consolidation movement is reported as well under way in a dozen counties as a means of cutting down expenses and providing for lack of teachers. Transportation methods form the greatest problem in consolidation.—Hamilton, Harrisburg, Sept. 24.

NEW YORK LETTER

Food Administrator's Appointment.—While touring the county exhibits at the state fair, Geo. W. Perkins accidently met and at once engaged in conversation the leaders of the farmers' opposition to his appointment as food administrator of the state. All regret that the clear statement of policies which followed could not have occured earlier. Mr. Perkins stated his reason for wishing to put the Dairymen's League under state control as a means of insuring the consumers' confidence. The milk dealers would also be regulated by the state and as a means of putting official approval on milk prices such control of the League by the state was also necessary, he believes. At present, thru widespread advertising campaigns, the consumers are led to believe by the dealers that existing high prices of milk are the fault of the farmers. Since the discussion, various state organizations have endorsed Mr. Perkins, including the horse breeders, cattle, swine, sheep and poultry breeders' associations, the state horticulturists and other similar organizations. The Dairymen's League and the State Grange have not as yet withdrawn their opposition. If the three senators whose vote decides the election when the Senate reconvenes Sept. 25 cannot be influenced by the action of these organizations, the Governor announces that he will withdraw his appointment. In the meantime every effort will be made to support the Governor's nominations.

Favor 16-Ounce Bread.—The State Sealers believe that a standardization of the bread law would be of great benefit to consumers. With the federal regulation of wheat prices, fluctuations in price of flour will make it possible for bakers to standardize the size of the loaf at a fixed price. At present milling of new wheat is supplying more flour than is needed, and a surplus is soon expected. The state sealer of weights and measures recently held a three-days' conference in Syracuse, attended by 60 delegates.

Scholarships Awarded.—The state of New York awards 750 university scholarships each year. These scholarships are awarded to pupils of the 4-year high school courses who are entitled to the regent's college entrance diploma. In the month of August in the various counties of the state complete lists of pupils entitled to these diplomas are filed with the Education Department, there being 1,844 eligibles this year, a smaller number than in former years. This year an average standing of 75 percent was required instead of the usual 60 percent. The attractions of employment at good rates of compensation this year also reduced the high school attendance, especially of boys.

Dairy League Advances Milk Prices.—At a general conference of the Dairymens' League, with directors from six states held in Syracuse last week, a raise of 1½ cents a quart was decided upon as a contract price for October and November milk. The New York dealers say this will necessitate a bigger raise in retail prices than they have yet inflicted, and a full attendance of the directors of the Milk Dealers' Conference has visited Washington to put the situation before Mr. Hoover. The League members after a widespread canvass of leading farmers say that such a raise, or a price of 6.86 cents a quart, is absolutely necessary if they are to continue in the business, as feed has advanced from 100 to 300 percent in cost, varying with different feeds, while distillers' grain is to be wholly withdrawn from the market. Mr. Hoover announces an investigation of the proposed raise. The dairymen's hope in the feed situation is now the co-operative buying for their members. The new mixture to be known as the Dairymen's feed is a balanced ration planned on a practical basis to be furnished to members at a saving of $2.50 per ton. The new feed was first tried out on the cattle at the state fair. Few localities have as yet arranged to secure this feed regularly, but as its merits become known it is hoped more sections will provide a depot for its handling.

Public Markets a Great Benefit.—Repeated testimonies are given of the great value to the poor of the cities found in the new public markets recently in operation in many cities of the state. Ithaca reports a great help to the laboring class from their market which is held three times a week where prevailing retail prices are high. Syracuse's new armory circle street market is more than a success, very few farm wagons ever going home with stocks unsold. An element of sociability prevails in all these markets, with prominent citizens mingling in the crowds of buyers, baskets in hand. The increasing use of the market basket is very noticeable in all sections at this time. Most stores carry a line suited to all pocketbooks.—F.

NEW JERSEY FARM NOTES

Dairy Inspection.—The State Board of Agriculture is arranging a modified form of request for dairy inspections that will permit owners of herds to have cattle affected with tuberculosis taken out by a physical examination. Under such a plan, it is the contention that the "spreaders" of the disease will be more rapidly weeded out, as it will not be necessary to wait for a regular tubercular test. This new regulation of the department is expected to be an added incentive for the farmers of the state to avail themselves of the services of the state board in these inspections.

Bee Industry.—The total amount of revenue derived from bee culture in this state is about $75,000 a year, and it is estimated that the business has been developed to only one-tenth of its maximum. In order to stimulate interest the department of agriculture announces the preparation of literature for distribution showing how the culture of bees can be made a profitable side-line to many kinds of farming and also how it will prove interesting and profitable for the man who owns only a few acres.

Full Crew Fight.—The battle for the preservation or abolition of the "Full Crew" principle is on before the State Board of Public Utility Commissioners. The law passed at the last session repealed the provisions of the "Full Crew" law, but required that before any railroad might reduce the membership of a crew, it must first prove to the Utility Commission the reasonableness of its application. Accordingly, the ten leading railroads are now before the Commission asking to reduce the number of men operating many trains. The positions of some 400 men are depending upon the decision of the Utility oaBrd. The railroad are contending that they will find work for all men taken from the crews. The Trainmen's Brotherhood is opposing the applications.

Farm Supply Purchase.—In the future the operation of the State Purchasing Act will apply to the buying of feeds, fertilizers and seeds for the use of the various farms connected with state institutions. At a recent conference it was decided, because of present condition of the feed market and probable changes in the situation when the country's great corn crop is harvested, not to advocate the purchase of large quantities until November.

Pest Campaign.—The Department of Agriculture is launching a drive against the common insects and fungous diseases which bother the home gardener. It has just issued a circular giving directions for the control of all insects by classifying them in groups. The control of common diseases is also described and the proper use of fungicide which may be had in any town. Home gardeners who expect to plant next spring will find in this circular a description of the methods for controlling pests which have caused trouble the past season.

Negro Bureau.—Establishment of a Department of Negro Welfare and Employment Bureau in connection with the State Department of Labor has just been announced by State Labor Commissioner Lewis T. Bryant. This innovation came about largely because of the large influx of negroes from the southern states due to the changed industrial conditions induced by the war. Besides obtaining employment for those who migrated, the new bureau will investigate housing and sanitary conditions and promote the social welfare of these members of the colored race.—L.

FARM MEETING CALENDAR

Dairy Cattle Congress, Waterloo, Ia., October 1-7.
Eastern States Exposition, Springfield, Mass., October 12-20.
National Dairy Show, Columbus, O., October 18-27.
American Pomological Society, Boston, Mass., October 31-November 4.
Short Courses in Agriculture at Rutgers College, New Brunswick, N. J., open Nov. 20.
International Live Stock Exposition, Chicago, Ill., December 1-8.
Pennsylvania State Grange, Williamsport, Pa., December 11-13.

FAIRS NEXT WEEK

County	Town	Date
	Pennsylvania	
Sullivan	Forksville	Oct. 2- 4
Washington	Burgettstown	Oct. 2- 4
Bedford	Bedford	Oct. 2- 5
Columbia	Bloomsburg	Oct. 2- 5
Wayne	Honesdale	Oct. 2- 5
York	York	Oct. 2- 5
	New York	
Chemung	Elmira	Oct. 1- 5
Otsego	Morris	Oct. 2- 4
Yates	Dundee	Oct. 2- 4
Montgomery	Fonda	Oct. 2- 6
Livingston	Hemlock	Oct. 3- 5

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Ornamenting Farm Lawns---I

By Frank M. Bartram, Chester Co., Pa.

If it is true that "folks are the best farm crop" the home ground should be made to contribute to the excellence of the product. They may be made very attractive without involving excessive care during busy seasons.

The arrangement should include borders of hardy plants rather than formal beds of sorts that require a lot of coddling. The suburbanite finds recreation in the trouble his little lawn affords him; the farmer's family want a quiet restfulness expressed in their home surroundings.

Trees

Trees should be located with reference to their value as shade or shelter, wind-breaks, framing desirable outlooks and for their contribution to the picture of the homestead. Perhaps in many cases thinning out or a re-arrangement may be called for. The picturesque pines and graceful hemlocks have added much in beauty, sentiment and value to many old places. The oaks symbolize strength and endurance and are desirable. The maples are common; they are clean and neat and the sugar maple shows attractive fall colors.

R. L. LIVINGSTON FARM HOME, CRAWFORD COUNTY, PA.

The characteristic dome-shaped head of the American elm allows grass to grow beneath it, as does the tulip tree with its glossy leaves and cup-shaped flowers. The honey locust with light, graceful foliage effect has great, brown seed pods in autumn, identifying it with nitrogen-gathering legumes. The Japanese walnut is a lusty grower and an early bearer. The native black walnut makes a stately tree and the nuts pay for its rent.

The persimmon is an ornamental tree with glossy foliage and fruits that are not to be despised now, and when the plant breeder gets around to it we may expect improvement. Sweet cherries and crab-apples among fruit trees have particular claims for certain positions in the home yard or lanes. The flowering cherries with their exquisite delicacy and profusion of bloom, and the dog-wood and thorns with their show of flowers in spring and attractive seed vessels in autumn belong to a class of dwarf trees that should be more freely used about farm homes.

All the trees named here should be considered only as suggestive or representative and not at all attempting completeness of those that are desirable, and this will even more obtain when other classes of plants are under consideration.

Shrubs

The rhododendron and mountain laurel are very attractive in bloom and have glossy leaves that are retained all winter. A sheltered, shady location prevents excessive winter evaporation that is so hard on the plant. By being planted in large colonies they protect each other from wind, and allow a mulch to cover their roots which are close to the surface. They do not thrive in limestone soils.

The Abelia is another choice, broad leaved, evergreen shrub with a mass of bright flowers thruout much of the summer. It also needs protection from winter sun and wind as does the box-bush that imparts an air of dignity. The forsythia, with its chain of cheerful yellow flowers, is among the first to bloom in the spring, followed before long by the white masses of the Spirea Van Houttei, a hardy plant of graceful, drooping habit.

The bush honeysuckles are thrifty growers with healthy foliage. Their fragrant flowers are admired and the brilliant fruits that follow and are quite lasting prove an added attraction. The lilacs are old favorites, some of the newer varieties having more healthy foliage. The strong growing mock-orange is associated with most old homes and has proved it can thrive under usual farmyard conditions. Not all varieties are fragrant.

The Japanese barberry with numerous spiney curving branches makes a splendid edging for shrubbery plantings. The bright red berries are cheerful in winter after the leaves are gone; leaves that are a pleasing green in summer and brilliant in autumn

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MARYLAND NOTES

The Nanticoke blackberry gave us fruit for just one month, beginning on August 10 and furnishing the last on September 10. It is a pity that this fine, late blackberry cannot become a shipping fruit, but it is soft as soon as ripe. But for the home garden and a local market it is good. Ripening thru a good long season is an advantage for the home garden. It makes one or two large ripe berries in a cluster of red and green ones, and never a whole cluster at once.

On the other hand, after testing for three years, I have found the St. Regis Raspberry not worth the space it occupies. It has been claimed to be the best fall bearer. Well, it is now making its fall crop the middle of September, and a row 100 feet long will not give a saucer full at a picking. The spring crop is slightly better but not enough to make the plant worth growing. The fruit is all right if we could get enough of it. The Cuthbert is still the best raspberry.

The wet season has been very favorable for the germination of seed, and I never saw spinach start off better. Spinach seed is now one of the costly things. A few years ago we could get it for 20 cents a pound; now it is $1.35 a pound and scarce at that, for the bulk of the seed has been coming from Holland, and Holland has put an embargo on it. One seedsman who usually handles 75,000 pounds of spinach seed told me that he has but 25,000 pounds and cannot get what he ordered from Holland.

The greatest failure of the season has been the Fordhook lima beans. I have quite a large patch of them, and the growth is fine, and they have been covered with bloom all summer. But with a patch that, under ordinary conditions, would have not only supplied the table but would have given plenty of dry beans for winter, we have not been getting enough for a family of three. The constant rains have probably spoiled the bloom. As a rule we get far better crops from the small lima, the butter bean of the south. And to my taste the small lima is a better bean than any of the large limas. Henderson's bush lima belongs to the small lima class. This was the first of the bush limas and originated in the Piedmont section of Virginia.

The bush beans take less space in the garden, but we get far more beans from the climbing varieties, and when given chicken wire netting to climb on they are not so ugly in the garden as the poles.

The canteloupe crop was a very good one and the growers made a fairly profitable season. A good many hundreds of car loads were shipped but I have not the figures. The tomato crop which for a time seemed to be light took on a new production and is turning out fairly well. If we keep clear of frost to the end of the month the crop will all have been saved. The mornings of the 11th and 12th were quite cool, but no frost, the mercury standing here at 48 on the 11th, and 50 on the 12th at 7 A. M.—W. F. Massey.

Timely Fruit Notes

By Dr. J. P. STEWART

Saving the Lower-Grade Fruit

No food of any kind should be allowed to waste this year; hence some provision should be made to prevent the large annual losses which generally occur in the lower-grade or cull fruit. The principal means of prevention are by drying, canning, or making into cider. Jellies, syrups, and the various fruit butters and marmalades are also available, and are generally exceedingly appetizing. Of these various processes, the simplest and largest consumers of fruit are probably cider-making and drying.

To determine which is most likely to be profitable, it may be noted that one bushel of fairly good apples should yield 6½ to 7 pounds of dried fruit evaporated to a moisture content of 25 percent, which is about right. In a well-equipped factory, this can be accomplished at an average cost of about 2½ cents a pound, but at home it will doubtless cost at least 5 cents. If the slicing, bleaching and drying are well done, the resulting product should be worth at least 8 to 10 cents a pound at retail. This product requires no expensive containers, can be stored in small space, and will keep almost indefinitely under proper conditions. The original fruit can thus be converted into a relatively stable food, and be made to yield a return of about 25 to 30 cents a bushel.

When the fruit is made into cider, one bushel of well-ripened apples should yield about 2 gallons if made with a good home press, and about 4 gallons with a first-class power press. This cider should be worth about 10 cents a gallon, and hence would yield a return of 20 to 40 cents a bushel on the original fruit, minus the cost of making, which should be relatively small.

The cider can then either be carried over into vinegar or may be pasteurized and kept sweet indefinitely. The pasteurizing is best done by heating the fresh cider to a temperature of 149 degrees F. for one hour, and then sealing in sterilized containers.

In the case of the dried fruit, if much of it is to be prepared for the market, care should be taken to see that the pieces are clean, bright and in the standard forms. The complete ring form is the most common in high-grade stock, altho full quarters or those dried whole will often bring a slightly better price. The latter are much harder to dry, however, and with a satisfactory parer and slicer the ring form will be found most practical. In this case the slices should be made about a quarter of an inch thick, and should be bleached at once after paring and slicing by exposing to fumes of burning sulphur. This is done in shallow trays or racks in a tight box, and the amount of sulphur and time of bleaching should be regulated so as to secure the desired results with the least exposure to the fumes. One-half pound of sulphur with a 45-minute exposure should bleach about 100 pounds of fruit.

The proper moisture content for the finished fruit can be determined roughly by continuing the drying until no moisture shows on the surface and none can be pressed from a broken slice, but the pieces still remaining springy and not sticking together after moderate pressure. Five or six hours is frequently sufficient for this with a good evaporator and with the sliced fruit on racks and not over 1 or 2 inches deep. After the fruit is considered dry enough it is moved to a clean dry curing room and turned or shoveled over every day or two until the whole mass is practically uniform.

Further details on the drying may be secured from Farmers' Bulletin 291, obtainable on request from the Secretary of Agriculture, Washington, D. C. Information on canning, preserving, etc., may also be secured in bulletins of the U. S. Department, or in Extension Circulars 44 and 61 issued by Pennsylvania State College.

Injury to Peach Trees

"My peach trees are dying. They were five years old this spring. The trouble seems to be about three inches above the ground. The tap root dies while the other roots are green. The leaves are turning yellow and have red spots. We looked for worms but find none. What can I do?"—T. B. K., Lehigh Co., Pa.

If the writer is correct in his impression that the worms or borers are not involved in this injury, the trouble is then undoubtedly due to winter-injury, which often does not show up until relatively late in the season following. In this case there is practically nothing that can be done to save the trees. The trouble itself can usually be avoided by seeing that the bases of the trees are not exposed at any time during freezing weather, as is sometimes done in process of worming, and as occasionally develops in heavy soil, simply due to the swaying of the trees by the wind.

The latter process sometimes loosens up the soil to a considerable depth around the base of the tree and thus permits the living cells, between the bark and the wood, to be readily killed by any freezing that follows.

SUMMER PRUNING OF THE RASPBERRY

After fruit has been harvested from the raspberry, pruning of the vines is necessary if success is to be obtained thruout the following year. The pruning of the vines is generally done during the month of August, but it will depend upon the variety and the time of fruiting. The grower will go thru and cut out vines that have borne fruit in that particular season, cutting the canes off close to the ground. Some few other canes should be cut out as well, leaving for each plant 4 to 6 good new canes. These new canes should in turn be clipped back to 2½ or 3½ feet tall. This clipping back will induce lateral growth which in turn will encourage a greater setting of fruit the following year. The advantage of cutting the old canes at this time is found in the ease of doing the work. The fruiting canes are much easier severed than if allowed to remain over winter, because they are less woody at this period.—A. E. W.

SAVING TOMATO SEED

In the saving of tomato seed, states C. E. Meyers, of The Pennsylvania State College, the first point to consider is the character of the plant from which the fruit for seed is selected. It should be borne in mind that the fruit reproduces the characteristics of the plant as a whole rather than of the individual fruit. Therefore, when selecting specimens for seed, care should be taken to select only from plants which produce a large percentage of desirable fruit.

The fruit should be ripe when picked. It should be cut in two and the seeds squeezed into a vessel. This should be left standing for two to three days until it ferments. The fermentation process will cause disintegration of the mucilaginous film which surrounds the seed and prevent its sticking together in masses.

At the end of the fermentation period, the liquid may be drawn off and the seeds washed by manipulating with the hands, in a strainer of suitable size, thru which running water is allowed to pass. If running water is not available, several changes of water may be used and the washing continued until the seeds are clean. They should then be spread out to dry and placed in a cool, airy place. When thoroly dried, they may be stored for subsequent use.

DISEASED TREES IN PEACH ORCHARD

The heaviest rush of peach marketing is now over and growers should remove all trees showing any of the following symptoms. Premature peaches, which usually show on one or more branches the first year, indicate a diseased condition. These peaches ripen a week or ten days before the remainder on the trees ripen; their skin is usually mottled and when cut open the pulp is streaked with red. The flavor is insipid and sometimes bitter. The leaves have a yellowish color and roll at the edges. In the later stages, fine shoots with narrow leaves, lemon yellow in color, grow out from the trunk of the tree. These symptoms denote "yellows". In the case of "little peach", the peaches on the whole tree or on certain limbs are very small or irregular in size and instead of ripening prematurely, as in the case of the "yellows", the peaches are much later than those on healthy trees. The leaves are yellowish and appear to hang down in the centre of the tree.

These diseases are contagious and when a diseased tree is left in, a circle of diseased trees will be found surrounding it the following year.

"Bacterial leaf spot" causes certain varieties to lose large numbers of their leaves. The leaves in some cases turn bright yellow and are punctured with holes. In other cases the leaves drop off while still green.—W. W. Oley, Cumberland Co., N. J.

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Poultry

FALL POULTRY WORK

After the worries of spring incubation and brooding and the constant attention in the summer, the poultryman is likely to look over his flock of young stock and find that they are looking fairly well. They seem to gather considerable food on the range and the growth of the pullets seems to warrant good egg records at an early date. Then the poultryman is likely to become careless and relax in the care of the birds. The results that follow are very bad for the farm income and much of the remainder of the year's work with the young birds is reduced in value because there is a lack of good management at the finish.

Of course there are many fine days in the fall when the sun is warm and the wind is still. The pullets range in the fields and thrive. Vigilence is necessary to send the birds into winter quarters in fine condition. In the first place we have raw cold winds in fall which come up unexpectedly and chill the poultry. This may be followed by rain and then a damp, chilly night. Colds are likely to result as the birds crowd together at night and become overheated. Then they come out on the cold ground in the morning and we soon note the foamy eye which shows that serious colds will follow if the condition is not remedied.

Pullets must be in their winter quarters before the stormy fall days arrive. They must have learned to use the roosts to prevent crowding together on the floor or in the nest boxes. Then they can be allowed some freedom when the weather is fine but they will never need to be subjected to the raw winds and cold rains which hump them up in the fence corners and cause colds and roup.

Fighting pests is important in the fall poultry work. Give every pullet the blue ointment treatment for lice before she is placed in the laying house. Lice rapidly devitalize young pullets in the fall and birds pestered by lice are quite likely to fall prey to many different poultry diseases. At least there is practically no chance of a lousy pullet paying for her feed in eggs at the present price of feed. The mite campaign which must always be carried on during the summer should not be neglected in the fall. Paint the roosts once each week with kerosene oil to keep these pests from feeding on the pullets every night when the birds should be storing up energy from their food to lay eggs the next day.

Clean litter in the poultry house is a fall necessity. Litter that has been in the house for a long time during the summer will be very dusty. If the birds scratch in dirty litter it may result in colds and other diseases. Clean and spray the poultry house thoroly. It takes time but a dozen eggs at the present price is a fair return for an hour's work and a farmer can do a great deal for the poultry for the price of five or ten dozen eggs.

Remember that green food is important in the winter ration. In the fall enough mangels and clover should be stored to last the hens until spring. If the supply of green food is exhausted late in the spring it will mean that the birds do not receive this valuable addition to their ration just at the time it is most necessary to keep their systems in condition to lay fertile eggs. Mangels are much better than cabbages. Last year some poultrymen in our section thought that cabbages made their laying hens more susceptible to chicken pox. At least cabbages were too high to feed to hens and chicken pox did not appear.—R. G. Kirby.

REPORT OF VINELAND EGG LAYING CONTEST FOR AUGUST 1917

At the end of the tenth month of the Vineland Egg Laying and Breeding Contest, the total production stands at 148,281, with the monthly production for August at 13,179, or a production of 42.5 percent.

The special cash prizes for the month have been awarded as follows: To Pen No. 76 for the highest production for any one pen for the month, having laid 210 eggs, or a production of 67.7 percent. The pen is a S. C. White Leghorn pen and is owned by P. G. Platt, of Wallingford, Pa. This is the third consecutive month that Mr. Platt's pen has been high pen. To Hen No. 930 for the highest production for any one hen for the month, having laid 27 eggs, or a production of 87.1 percent. The hen is a S. C. White Leghorn and is owned by W. K. Wixson, of Germantown, Pa.

Following is a list of the five highest hens of the contest to date:

Hen	Variety	Prod.
17	Barred Plymouth Rock	268
106	White Plymouth Rock	261
179	Columbian Plymouth Rock ..	255
622	White Leghorn	249
902	White Leghorn	244

The table following shows the hens that have laid thirty or more consecutive days:

Hen	Variety and Owner	No. of Days
743	W. Leghorn, Oakland Farm	53
763	W. Leghorn, P. G. Platt	46
768	W. Leghorn, P. G. Platt	46
902	W. Leghorn, Gustav Walters ...	45
137	W. P. Rock, Overlook Farm	44
39	B. P. Rock, O. C. Luhrs	41
15	B. P. Rock, G. W. Buck	38
17	B. P. Rock, G. W. Buck	37
106	W. P. Rock, Holliston Hill P. F..	35
888	W. Leghorn, J. P. Van Zandt ...	34
393	R. I. Red, Underhill Bros.	33

Following is the average percent production for the month and for ten months for the ten breeds represented:

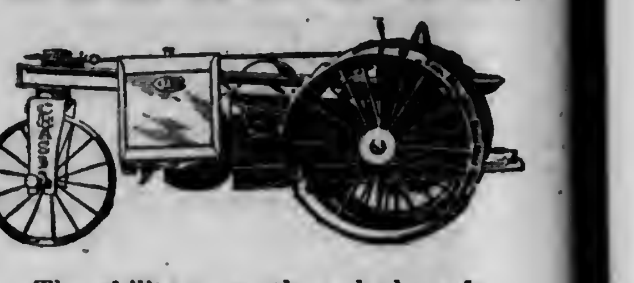
	Aug.	To date
S. C. White Leghorns	48.9	52.7
S. C. Black Leghorns	45.3	52.9
Columbian Plymouth Rocks	38.2	44.6
Buff Wyandottes	37.5	36.6
S. C. Buff Leghorns	36.1	40.2
White Wyandottes	35.4	44.5
R. I. Reds	34.5	43.1
White Plymouth Rocks ..	31.7	45.7
Columbian Wyandottes ...	30.8	40.8
Barred Plymouth Rocks ..	30.6	45.3

Following is a list of the high pens in the ten breeds for the ten months:

	Pen	Eggs
Barred Plymouth Rocks	1	1782
White Plymouth Rocks	10	1754
Columbian Plymouth Rocks .	17	1642
White Wyandottes	22	1530
Columbian Wyandottes	27	1380
Buff Wyandottes	30	1344
R. I. Reds	39	1674
S. C. White Leghorns	88	2019
S. C. Buff Leghorns	95	1325
S. C. Black Leghorns	100	1654

The race for first place is being watched by all with a good deal of excitement as Mr. Platt's Pen 76 is pressing close on the heels of Mr. Van Zandt's Pen 88. At the end of the forty-fourth week, Mr. Van Zandt's pen was leading by 60 eggs.

During the past month, there has been an epidemic of chickenpox in the Vineland district and a few of the pens of the contest have suffered slightly. The management of the contest has the disease under control and there is no cause to expect an increase of the disease.



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Live Stock

BUY EWES IN FALL

If you want to start in the sheep business, and do not intend to become a breeder of purebreds, but intend to produce wool and mutton, the cheapest way to start is to buy western ewes from September 1 to November 1. These ewes can be obained either by writing to a reliable commission firm at one of the leading markets, or by making the selection in person.

In buying western ewes be sure and get young ewes; yearlings or two-year olds are best. Avoid old, broken-mouthed ewes. Get well-built ewes carrying some Merino blood and having dense fleeces. Sometimes a man can buy native ewes of good quality at reasonable prices. Rams for breeding purposes should also be purchased at this time from reliable breeders of purebred mutton sheep.

THE CONCRETE FEEDING FLOOR IN BARNYARD IS A PAYING INVESTMENT.

Buying sheep in the spring when the prices are high and fattening and selling them in the fall can not be recommended as a money-making undertaking, even tho the sheep fatten well. The general practice where the business is at all extensive, is to buy ewes in the fall, breed them to the best mutton type rams, have them lamb from the middle of April to the early part of May, and keep both ewes and lambs grazing thru the summer on luxuriant pastures.

Flocks that have been established and which have produced lambs should be culled and the culls should be fattened as much as possible and then sold. Should lambs be dropped in March and then be well-grown, it may be desirable to market them in July, August or early part of September. The market demands a good, fat lamb of from 70 to 80 pounds.

Expensive Sheep Barns Unnecessary.

Sheep do not require warmth except at lambing time. Sheds or barns that keep sheep dry and offer protection against winds and cold drafts are all that is necessary in the sheep industry. Buildings that supply sufficient storage space for hay and other feed necessary for winter feeding are desirable.

Good Fencing Important

Fencing may be regarded as one of the necessities for successful sheep production. Closely woven wire, four feet high, with two or three barbs on top and one at bottom makes a good fence for pasture. The dog has been a menace to the raising of sheep, but the menace is largely overcome by pasturing the flock in a well-fenced lot. Until the farmer has such a fence, he should confine his flock at night in a well-fenced yard or corral.—Wisconsin Circular.

FORAGE CROPS LOWER COST OF PORK

Pork production is cheaper with grain and green forage crops than with grain alone. Some grain is necessary for fattening hogs on pasture.

An acre of clover had a value, in replacing corn in the ration, of $101.02 in one test made by the Ohio Experiment Station, with corn valued at $1.68 a bushel. Red clover ranked first among swine forage crops in tests made at the Ohio station. Rape, soybeans and bluegrass followed in order of efficiency. While alfalfa was not tested, it usually ranks a little above clover.

The number of hogs an acre of pasture will carry is influenced by their age and thriftiness, the amount of forage produced, the amount and nature of the concentrates fed, and other factors. When given somewhat less than a full feed of grain, from 8 to 14 fall or winter pigs and 12 to 20 spring pigs may ordinarily be pastured on an acre of average clover or alfalfa, and from 500 to 600 pounds of pork should be produced.

Prices of grain and amount of pasture determine largely the quantity of concentrates to feed hogs on forage. It is doubtful whether less than half of a full feed should be given hogs on pasture if intended for market. Exclusive pasture feeding results in slow gains.

DO NOT GRIND CORN FOR HOGS

Corn is ready for hogs when it is shoveled on a clean feeding place. Cooking, grinding or soaking corn for hog feed is generally not necessary or practical. It has been found by numerous experiments that when corn is cooked its digestibility is reduced. The time and equipment necessary for this operation also make it an undesirable undertaking.

It pays to grind corn for hog feed in only a few cases. It is good practice at times to feed ground corn to heavy hogs during the finishing stage in their preparation for market. If the grain is especially hard or flinty it may be ground to advantage. Many farmers grind their corn when the price is high and ordinarily this is found to be an economical practice.

The labor required to soak corn for hog feed prevents this method being a paying proposition. Then, too, if soaked corn is fed on the ground the hogs are sure to pick up more or less dirt and filth.—Roy Gatewood, in Kansas Circular.

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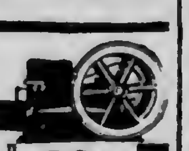

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Farm Products Prices and Prospects

WEEKLY MARKET REVIEW OF FRUITS AND VEGETABLES

Irish Potato Prices Firmer

Despite the fact that shipments of Irish potatoes this last week were about 800 cars heavier than a week ago, prices have advanced considerably. Jersey Giants are selling f.o.b. at $1.12@1.15 per bushel, as compared with 90@92c a week ago, Maines at $2.40@2.75 per peck-sack, f.o.b. as compared with $2 a week ago. Jobbing prices are also higher.

Canteloupe Demand Weaker

The unusual cool weather has caused the demand for cantaloupes to weaken, and altho shipments are nearly 300 cars less than a week ago, prices have also declined considerably. Rocky Fords are selling f.o.b. at $1 per crate, as compared with $1.25@1.50 a week ago. Jobbing prices of Colorados have declined to $1.25@2.50, as compared with $2 @3 last week.

Apple Prices Higher Than Last Year

Early fall apples are selling at $1.50 @2.50 per barrel higher than last year at this time. Jobbing prices are slightly weaker than last week. Wealthys are jobbing at $4@5.75 per barrel, as compared with $4.50@6.50. The apple movement is getting considerably heavier.

Sweet Potato Movement Heavier

Shipments of sweet potatoes for the past week amounted to 150 cars more than a week ago, the Eastern Shore of Virginia movement was heavier, and New Jersey shipped three times as many cars as a week ago. The New Jersey crop is estimated at 3,090,000 bushels, or about one-third more than a year ago.

Other Fruits and Vegetables

Cabbage shipments were about 125 cars heavier than a week ago. New York and Colorado are moving the largest number of cars. Colorado has shipped to date only 920 cars, which is about one-half less than corresponding date last year. The estimated production for Colorado is 58,960 tons, which is about 80 percent more than last year.

The onion movement from Massachusetts, New York and California was considerably heavier than a week ago. F.o.b. prices at Rochester are $1.25 per bushel, which is a decrease from the price a week ago.

To date, 982 cars of celery have been shipped, as compared with 197 last year up to the corresponding time. New York especially has shipped much heavier, totaling more than three times as many as last year to date.—Chas. J. Brand, Chief of Bureau of Markets.

EFFECT OF THE FROST ON CORN AND POTATOES

While little has been published concerning the effects of the late cold wave, which was quite general thruout the country, reports show that more or less serious damage was done in a great many places. Thruout the northern counties and the higher altitudes of Pennsylvania corn, potatoes and garden truck were severely damaged. Ice froze in many places and the freeze was sufficient to stop all growth. Corn was not matured and is greatly damaged for other use than for silage. Some sections of the tobacco growing counties were hard hit.

Little damage was done in the chief corn growing states of the middle west, but the northern states suffered considerable loss as corn and potatoes were not mature. In northern Illinois, corn on low lands was badly damaged. In the central and southern sections, the corn and potatoes escaped but tender vegetables suffered. Less damage seems to have been done in Indiana.

In Michigan, the damage was heavy, especially in the northern part and in the higher altitudes. Corn, beans, potatoes and garden crops were badly affected.

The frost, followed by cold, wet weather retards the development of crops in Iowa. Corn is backward and will require four or five weeks of good weather to mature. Damage by the freeze was not great.

Severe frost damage occurred in North Dakota and South Dakota, altho a good crop will be harvested.

SELLING TOMATOES AT AUCTION AT A NEW JERSEY EXCHANGE.

In northern Minnesota and Wisconsin corn and potatoes were badly damaged. Since these crops were not nearly mature the loss will be heavy.

THE PRICE OF THIS YEAR'S WHEAT CROP AS FIXED BY THE GOVERNMENT

In all cases the price of No. 2 grade is 3 cents per bushel less; No. 3 grade is 6 cents less, and No. 4 grade is 10 cents less.

Government price at	No. 1 Northern Spring	No. 1 Hard Winter	No. 1 Soft Red Winter	No. 1 Red Durham	No. 1 Soft White
Chicago	$2.20	$2.20	$2.18	$2.13	$2.18
Baltimore	2.29	2.29	2.27	2.22	2.27
Philadelphia	2.29	2.29	2.27	2.22	2.27
New York	2.30	2.30	2.28	2.23	2.28

COLD STORAGE HOLDINGS

Following is a comparison of cold storage holdings on September 1, with those of one year ago as reported to the U. S. Department of Agriculture. The figures represent the percent of increase over last year:

Frozen beef, 73; cured beef, 61; lamb and mutton, 8.6; frozen pork, 5; dry salt pork, 4.3; lard, 9.2; poultry, 228; turkeys, 894; creamery butter, decrease, 10.6 percent; packing butter, decrease, 59 percent.

THE WHEAT ZONES

Ruling has been made by some of the Food Administration Grain Corporation agents that no wheat can be bought or sold outside the zone in which the buyer or shipper does business without the consent of the zone agents in interest. The following partial description of the zones will be of value:

Zone 1.—States: Maryland, Virginia, West Virginia, District of Columbia. Address: Geo. S. Jackson, U. S. Food Administration Agent, 20 Chamber of Commerce Building, Baltimore, Md.

Zone 7.—States: Connecticut, Delaware, Maine, Massachusetts, Michigan, New Hamshire, New Jersey, New York, Rhode Island, Vermont. Address: J. H. Barnes, U. S. Food Administration Agent, 42 Broadway, New York City.

Zone 9.—States: Indiana, Ohio, Pennsylvania. Address: H. D. Irwin, U. S. Food Administration Agent, 304 Bourse Building, Philadelphia, Pa.

PLAN TO KEEP POTATOES AT HOME

The local safety committee of the Chamber of Commerce, of Reading, Pa., continues to mature plans by which the potato crop of Berks County will be kept right at home. Not a bushel is to be allowed to go outside the county if it can be helped. The yield is so enormous that there is no reason, in the opinion of the committee, why the retail price to householders shall not be made $1 per bushel.

To attain this it is proposed to inaugurate an educational campaign among the farmers to turn down speculators whenever and wherever they appear and to supply storage facilities at central points for the growers if they so desire. The public has been warned to be on the alert and that if a large proportion of the crop is allowed to get into the hands of buyers the price will be $2 and probably $3. In this event the potatoes would be shipped to New York, Philadelphia and points much further away and then sent back to Reading, householders to pay the freight many times over. The entire intention of the campaign is to avoid the high prices which are sure to come if the potato crop passes into the hands of speculators or "buyers", as they are more politely called.

POTATO ACREAGE

The following list shows the estimated acreage planted to potatoes in the United States. In considering the percentage of frost or other damage the figures will aid in understanding the effect upon the nation's crop.

State	Acres
Michigan	320.000
New York	320.000
Wisconsin	290,000
Minnesota	280.000
Pennsylvania	272,000
Ohio	140,000
Maine	125,000
Illinois	125,000
Virginia	125,000
Iowa	115,000
Nebraska	105,000
Missouri	91,000
New Jersey	85,000
California	75,000
North Dakota	75,000
Indiana	74,000
Kansas	70,000
South Dakota	65,000
Washington	60,000
Oregon	55,000
Colorado	50,000
Kentucky	49,000
West Virginia	48,000
Maryland	43,000
Texas	40,000
Total of states growing under 40,000 acres	453,000
Total	3,550,000

HAY REPORT

The Government Report on hay of Aug. 1 showed a crop aggregating 100,000,000 tons, but this is reduced on Sept. 1 to 91,700,000 tons, in the preliminary estimate. The trade as a whole, and particularly those giving much thought and careful investigation to this year's hay production, believe it to be much below the last mentioned figure. It is everywhere recognized that acreage devoted to hay has this year been seeded to grain. Decreased production is also natural to expect during a year where climatic conditions are so unfavorable as this season has been. Cool, dry weather over the hay belt as a whole does not produce rank growth or heavy hay yields.

—

It is reported from Dansville, N. Y., that many acres of hay were left uncut in that neighborhood, owing to the scarcity of labor on the farms.

—

Pennsylvania Department of Agriculture estimates the hay crop of that state at 4,541,000 tons, compared with 5,241,270 last year. Decrease is due to unfavorable spring weather. With the exception of last year, the crop is the largest since 1908.

—

The Ohio hay crop generally exceeded expectations as to yield, but Field Agent Cochrun says that the quality of the crop is not all that might be desired, there having been unfavorable weather during the early part of the haying season and considerable of the crop was overripe when cut.—Grain Reporter.

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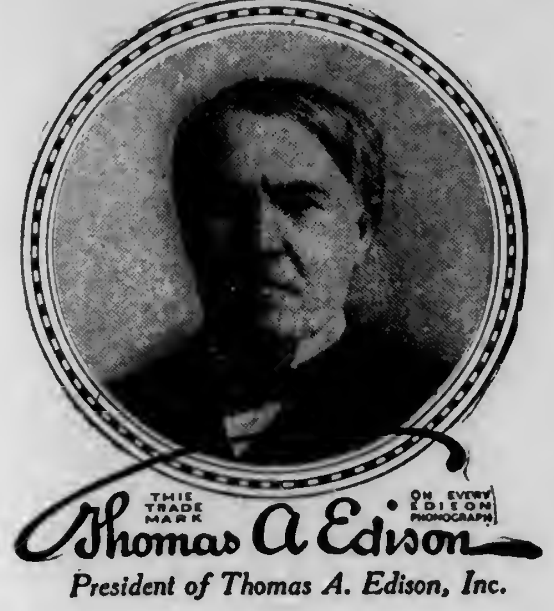

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Belleville—A. G. Gibboney
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Blossburg—L. D. Groover
Bradford—R. W. Crowell
Brookville—McKnight & Son
Center Hall—Jas. Decker
Chester—R. Chas. Simmonds
Clarion—Louis Poulain
Clearfield—Sheeder's Music House
Coalport—J. W. Laing
Coatesville—M. Chertok
Connellsville—Wright Metzler Co.
Corry—Durham Drug Co., Center & Franklin Sts.
Myrtle J. Fuller, 118 North Center St.
Danville—P. C. Murray & Son
Denver—A. G. Bruhaker
Doylestown—C. S. Fox
Easton—Yeager Furniture Co.
East Pittsburgh—Valley Furn. Co.
Erie—Erie Camera and Phono. Co.
Granville Center—C. E. Taylor
Greensburg—J. R. Klingensmith Co.
Greenville—W. S. Greene
Grove City—Geo. W. DeFrance.
Hanover—N. B. Carver
Harrisburg—Geo. W. Bogar, 14 N. Market St.
Hazleton—Alex. Stirling, 28 E. Broad St.
Hollidaysburg—G. W. Williams
Irwin—H. O. Keefer
Johnstown—J. H. Williamson
Kane—F. R. Campbell
Kittanning—Furnee & Kennerdell
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Lewistown—F. W. Kieferle
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New Castle—W. F. Dufford & Co.
Perkasie—M. L. Cope
Philadelphia—Blake & Burkhart, 1100 Walnut St.
L. L. Goodman, 327 Girard Ave.
Martin's Phonograph Shop, 224 S. 52nd St.
P. H. Moore, 6644 Germantown Ave.
John A. Popp, 2324 Columbia Ave.
C. E. Robertson, 3851 Lancaster Ave.
N. Snellenburg & Co., 12th & Market Sts.
Starr & Moss, 3631 Germantown Ave.
A. H. Weir, 2205 Germantown Ave.
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Phoenixville—R. G. Shaffer
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Pittsburgh—R. E. Behm, 918 Madison Ave.
Braun Music Co., 104 Federal St.
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Sunbury—Seebold Music House
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Wyalusing—J. B. Lewis & Co.
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NEW JERSEY

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Jersey City—Wm. Ricker, 658 Newark Ave.
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Newark—Phonographs, Ltd., 861 Broad St.
Orange—Edison Shop, 589 Main St.
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HAVE A HEART

By Wm. J. Watts

Dean's Cross Roads was a beautiful little rural center with a combination store and postoffice, and a few houses and cottages. Daniel Dean had settled there, cleared a farm, built a mill, and started all the homes thru his industry. Amos Dean, the only son grew to sturdy young manhood both in appearance and in deed. The Agnews lived in a house across the road from the postoffice. Amanda Agnew was beautiful but headstrong and ill-natured. It was common to hear the remark, "If Amos ever marries Mandy he will never need to look to anybody else to do the bossin'."

Amos worked in his father's mill. Across the pond, in a cottage, lived the dueless village smith. The eldest daughter in this home was beautiful. Amos married the cottage maiden.

"Oh well, mother, don't fret," wailed Mandy, when chided for her mistake. "Amos is just like all his people. They think they are th' salt o' th' airth and he thinks he is too uncommon smart t' marry common folks. It has t' be somebody uncommon poor or rich."

The family of Amos Dean was soon the pride of the community. The older ones went away to school and then the younger ones, until they were all scattered in useful callings. Amos and his wife retired to a near city.

For several years the Dean farm lay idle. Mandy was old now and lived by herself in the old house across from the postoffice. Her face was drawn and as she hurried from house to house her lips were drawn in a hideous smile. It was a common remark, "There goes old Mandy. Now there will be a scandal agoin."

One day a neat automobile with a neat driver stopped at the postoffice and then moved up the Dean farm lane. An inquisitive light came into Mandy's eyes. Raising her window she shouted an inquiry across to the postmaster.

"Why you oughter know who that was, Mandy, that was Amos Dean's youngest boy, an' don't he look like his father?"

Mandy already had her hands on the window ready to slam it down as she replied in a hissing tone: "Yis an' I jidge frum th' way he looks an' acts he is jist es proud an' unbearable. Jist see ef he ain't the' overbearenest man ye ever seen."

Rudolph Dean, the new occupant of the old home, proved true to the name in respect to industry.

Rudolph attended the local meetings for young people and was soon the idol of all the boys and the natural leader in everything, including the young people's prayer meetings.

"Jest wait. An ejecated fool 's th' biggest fool," Mandy cautioned.

The Dean farm continued to improve but one day Rudolph directed the most trustworthy man to use his best judgment with the crops and then disappeared. There was no knowledge as to his whereabouts. This fact was enough for Mandy.

"I jest expected sech a thing t' happen, an I told everybody he was a s'picious lookin' character."

One evening the men came down from the Dean farm laughing and unusually full of talk.

"Wal, there's been some time t' the Deans today. Rudolph came flyin' in with the finest little woman ye ever seen, an' followin' them came van loads of the swellest stuff yer ever laid eyes on. Ef we didn't have the derndest time jest follerin' around helpin' to fix things in the house, an' it was jest like bein' young agin to watch thet pair when ther so happy."

"Yes sir," continued the enthused farm hand, "she's jest happy, an' sweet, an' purty, somethin' like his mother was whin I kin first remember her. Ef them Deans jest don't beat all, an—"

Mandy interrupted here.

"Them Deans does beat what people spected, but I tol' them, an' now ther tellin' me he come back with some hi-falutin' city girl." All that evening and the next day Mandy was racing from house to house holding hands with herself and smiling the hideous smile.

The fact was well established that Rudolph had married a circus girl. The next time the story went around it had been changed to chorus girl, and then from bad to worse until it was beyond doubt that her mode of dressing was true to her kind.

"Mabel," said Rudolph to his wife one day, "this neighborhood stuff struck me funny at first but now it is nauseating. What are we going to do? I can't stand it."

"This is the way I see it," replied Mabel. "These people have nothing worthwhile to think about and little to inspire. We will be the same in a short time if we are not careful."

Mabel was not the crying kind but there were tears now. The little laugh, and smile, never stayed away long and in the clasp of strong arms she continued.

"Rudy, it would be selfish and cowardly for us to go back to town to be amused. Let us get real busy and invite the neighbors in evenings, and be useful and merry in spite of anything."

"Mabel! I knew it! I knew it! That is the reason you came out here and no doubt the reason you married me. You are a soldier! Bless my little wife! Why that is the way God intended neighbors to live."

Hearty invitations were spoken to everybody telling them of cheer, music, things to eat and drink, and general happiness expected.

Some rumors floated around. Old Mandy heard there would be cider to drink.

"Them kind like his wife ain't up t' nothin' good," said she. "An' jest see ef th' whole community ain't disgraced."

The evening came. All the houses in the village grew dark and a gay crowd could be heard collecting along the lane to the Dean home. Only one light remained in the village. It was Mandy's and it went out, too, after a while. If anyone had been watching, Mandy could have been seen hastening alone thru the dark in the same direction as the crowd had gone, and again after it began to pour cold rain, hasten back dripping and shivering into her house.

The crowd collected and passed into the Dean home. Doors were wide open and Rudolph formed a procession from cellar to attic to show the people what he had done with the old home. Games and music were soon giving pleasure to everyone. When the spirit began to decline and there was a tendency to yawn, unusual strains of music took precedence to everything else. The only movements noticeable were occasional glances of wonder that passed around. Mrs. Dean was singing old familiar songs such as "Comin' Thru the Rye", "Blue Bells of Scotland", "Silver Threads Among the Gold", "Sweet Afton", etc. Mrs. Dean knew the power that lay in the sweet voice of such a girl as she.

Refreshments typical of the fall season were passed and then the host in his pleasing boyish manner arose and began to speak about as follows:

"Neighbors, this evening has given me all kinds of pleasure. My only concern is in regard to whether we can have a time like this once or twice a week. My wife is good natured, but she absolutely refuses to live at the Cross Roads unless she can be a neighbor and have neighbors who are truly neighborly. Lots of things will have to be started right away or the long winter evenings will put us completely out of sorts. How many would be in favor of starting a circulating library and a reading circle in the Cross Roads?"

All hands went up with enthusiasm.

"How many would like to get a singing class started with my wife as teacher?"

All hands went up with hurrahs while some of the younger ones made a general uproar.

"Now," continued Rudolph, "those are only a start toward some of the good things we can have. Let us meet again a week from tonight, and then the singing can be started and the first books will be around."

The departure was a real jubilee with hurrahs for Mr. and Mrs. Dean. The boisterous bunch passed down the lane and the cheerful, enthusiastic voices grew fainter and fainter.

"Mabel," said Rudolph as they heard the noise die in the distant village, "why so silent? Is the city, with its pomp and splendor, calling?"

"No, Rudy," came her quick response, "I am just realizing some of the happiness that comes from seeing others happy, and I never was so happy in my life."

The next day Mandy was reported low with pneumonia. Like the tragedy of all life, the time came for the ending of her part in the world of clay. True and gentle were these, the last words to her memory, "At Rest".

The Losing Play

By Walter G. Doty

May the Lord deliver us from the lady fan! She usually doesn't know the difference between a base on balls and the catcher's mitt. She imagines that a squeeze play has something to do with the way the pitcher pinches the ball in throwing an outcurve.

And talk about offensive partisanship! I have seen male fans who would admit that the home team might occasionally—say, once or twice a season—lose a game thru poor playing or bonehead strategy. But the lady fan is always sure, if the other team wins, that they either cheated outrageously or bought the umpire. Then she consoles herself with the reflection, which she takes pains to publish abroad, that, at any rate, "the boys on our team are lots better looking."

Not that I blame Grace so much for that. Her brother, Charley, was a pitcher, one of the best in the league, so she was naturally interested in the game and wanted Charley to win every time he could. Only it didn't seem necessary for her to make such a personal matter of it all.

Charley was pitching for the Blue Stars, and I played left field for the Hustlers. It was only a bush league, but we took ourselves seriously; and excitement always ran high at the games. For that matter, it takes a small town to get up real enthusiasm over its ball team.

The fact that I was on a team opposed to Charley's didn't help my chances with Grace, but still it didn't prevent my calling on her every time we played in the Blue Stars' town.

It was the night before the deciding game of the year, the last of a three-game series in which each team had won a contest. The Hustlers and Blue Stars had played pretty evenly all summer and were now leading the league with just three points' difference in their standing. Tomorrow's game was the last of the season, and the winner of it would take the pennant. I was calling on Grace that evening according to custom.

"Charley is going to pitch," Grace said. "I do hope he'll win."

The only thing that I could gracefully say to that was nothing, and so I said it.

"If you should be the means of his losing," she continued, "I'd never speak to you again. It may be a mean thing to say, but I can't help it."

"What do you expect me to do?" I asked, driven to some sort of defense. "Lie down on my team mates? One reason the management is giving me a salary is because they expect me to do all I can to keep Charley or any other pitcher from winning too many games."

"Of course I don't expect you to lie down," she returned indignantly. "We don't care to win our games unfairly. I want you to play as well as you can. But I can't help feeling the way I do."

Pleasant situation, wasn't it?

There is no need of telling about that game in detail. It was close, and the end of the ninth found us tied, two and two. We failed to score in our half of the tenth, and the first two men up for the Blue Stars were easy outs. Then big Bill Travis, their first baseman, came to bat.

Now don't think I'm knocking when I say that big Bill wasn't much of a ballplayer. All that kept him in the league, and half the players will tell you the same, was his unheard-of luck. Good looking? I suppose so. Anyway he was popular with the girls.

When he walked to the plate this time, we all breathed a sigh of relief.

And then it happened! Big Bill hit the third one pitched, a wide out that any good batter would have let go by; and the ball came sailing out over my head. I sprinted for all I was worth and managed to get under it; but, in reaching for it, I hit it with my gloved hand in such a way as just naturally to knock it over the near-by fence. Big Bill made the circuit, and the pennant was gone.

"Well, anyway," I thought, "Charley has won his game, and Grace ought to feel well toward me for helping him out."

I went to see Grace that same evening but found that she had gone out with a friend. Next day our team went home. About a week later I received a letter from Grace.

"Wasn't it nice," she wrote, "that Charley won his game? But still I am almost sorry, because I know that you dropped that fly purposely. I need hardly tell you that I would not care to receive further attentions from a young man who would deliberately throw away a game, no matter what his temptation to do so might be. Besides, I have promised Will Travis that I will marry him at once. I most sincerely hope that the dishonorable action of which you were guilty will be your last of the kind."

"Home run!" "Dishonorable action!" "Dropped that fly purposely!"

And I never in my life tried harder to get a ball!

New York State Fair

Fine Quality Exhibits Mark Annual Event

The New York State Fair opened at Syracuse on Monday, September 10th, under unfavorable weather conditions. The first two days were wet and cool, and the attendance was small. Sunny skies on Wednesday, however, brought out an attendance of 39,000, while Thursday and Friday were big days. The exhibits, while not as large as other years in some lines, were never equaled in quality. This is especially true of the cattle and horse departments.

Live Stock

There were 216 entries in the Holstein-Friesian classes and every animal a top-notcher in production or in inherited blood of record producers. The Guernseys outnumbered the Holstein-Friesians with 229 entries, this being the best Guernsey show ever held in the state. And it was a quality show. The showing of Ayrshires was never excelled in quality in America. In the Jersey classes there was strong competition, the breed being represented by some of the best animals in the East. These are the four leading dairy breeds in New York state and led all others in the exhibition, altho there were many excellent animals of the Dutch Belted, Brown Swiss, Devon, Red Polled and Milking Shorthorn breeds.

Much interest was shown in the fine display of beef cattle. The exhibits, however, in the Shorthorn, Hereford and Aberdeen-Angus classes were largely from Ohio and Pennsylvania.

The Shropshires led the sheep show, with strong competition from several New York state and Ohio flocks. The Southdowns, Oxford, Cotswold, Tunis, and Cheviots were well represented, while three Ohio and one New York exhibitor contested for prizes in the Merino classes. The Karakuls, from which come the beautiful Persian lamb fur, contested for the first time at the state fair, the entries being from the flocks of F. E. Dawley, of Onondaga County, and the American Karakul Fur Sheep Company, of Otsego County.

The swine exhibit was small, and of the 291 entries, 183 were made by Ohio breeders. The Berkshires and Duroc-Jerseys led in numbers. Notwithstanding the high prices for hogs, swine breeding is on the decline in New York state and will continue to grow smaller as the business of shipping whole milk is enlarged.

The horse show, comprising the farm, breeding and draft horses, was very large, and reflected a decided change in the New York man's idea of horse size and type. Heretofore, if there was any considerable number of heavy drafters on exhibition, they came from some of the large Middle West importing and breeding establishments. This year there were exhibited more Percherons, Belgians and Suffolks than ever before, and they came, with few exceptions, from state farms. This was due to some extent to a new state class in addition to the open class, giving the home exhibitors two chances of winning. Draft horse grades, farm and general purpose horses were represented by many fine animals. A new horse exhibit building, costing $200,000, and a covered stock judging pavilion, are among the improvements first used this year. Among the recent developments of the New York state fair is the county exhibit. This feature is an aggregation of county fairs, and there is a rivalry among the counties to make the best exhibit and secure the most prizes.

County Live Stock

This year the cattle breeders of each county arranged their exhibits together by counties in the great cattle exhibit building, with attractive banners bearing the name of the county and other information. Otsego County had 20 breeders exhibiting 195 head of cattle, while Onondaga had 145 head on exhibition. Otsego took eighteen ribbons, while Onondaga got nine ribbons in the Holstein-Friesian classes. Otsego took 18 Jersey prizes in 22 classes, and was strong in the Guernsey and Ayrshire classes. Madison, Cayuga, and Courtland had strong exhibits. It is probable that the county unit idea in cattle exhibits will continue to grow until a large number of the leading dairy counties are represented, and the competition will be exceedingly keen.

Farm Bureaus

This county exhibit idea has been made possible by the development of the Farm Bureau. In a large building devoted to exhibits of the New York State Food Supply Commission, the Farm Bureaus of many counties had booths containing large and tastefully-arranged exhibits, representing the leading agricultural industries in the various counties. Each exhibit was arranged to present an object lesson, to instruct and develop new and better ideas of farming in the minds of fair visitors. Placards displayed the fact that Onondaga County has 4,000 head of purebred cattle, 38,000 acres of alfalfa and 31,970 acres of corn; that Cayuga County has two potato producers' associations growing certified seed; that Clinton County specializes in seed potatoes and is the home of McIntosh red apples.

Food Supply Commission

The State Food Supply Commission had well-arranged demonstration exhibits. In one were displayed different kinds of drain tile. In the background there was a real drainage system shown with water running from the outlet.

Canning and drying exhibits included a number of home-made evaporators and plans showing how to make them. Demonstrations in meat saving, cooking without sugar, and the uses of milk as food were featured by the State School of Agriculture. War bread making was demonstrated in the Home Economics department.

School Exhibits

In the main building were rural and agricultural school exhibits from several counties, showing what the children of the farms and villages are doing to increase production. A spelling contest was one of the educational features of the fair. Forty-six counties of the state were represented by boys and girls. Leslie Lewis, of Schenectady, a fourteen-year-old boy, carried off the first honors and is now the champion speller of New York State.

Fruit

The fruit exhibit was not as large as in former years, but of exceptionally fine quality. The county unit idea was also emphasized in this department, several large exhibits being made by counties. This is said to stimulate local pride and is doing much to promote better cultural methods and improvement in quality and yield of fruit.

Poultry

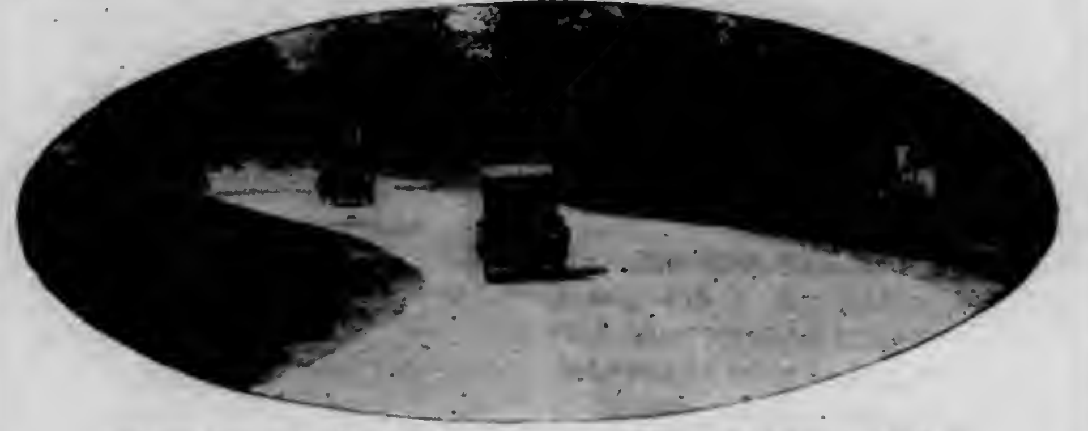
The New York State fair poultry show has long been a leader among the fall shows. The entries this year were large, especially in the utility classes. The ever-important question of how to make hens lay so there may be a profit in keeping hens was discussed daily before large crowds, by experts from the state agricultural college at Cornell.—R.

A Simple Road Problem

What is the repair cost on your old roads ? ____________

How much would concrete roads cost ? ____________

Your tax receipts will answer the first question. Your county engineer should be able to answer the second. By subtracting the cost of permanent roads from the repair expense for 20 years of poor roads you will find capital for building the permanent type, like the one below:



Sheridan Road, near Kenilworth, Ill.—Built by Edw. Laing, Highland, Park, Ill. C. N. Roberts, Chicago, Engineer

THE fact has been established that in the average rural community in the United States, temporary roads cost to repair and rebuild during a 20-year period, about twice what it would cost to build permanent concrete roads.

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No Skidding
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Smooth Riding
Long Life—Safety
Always Ready for Use
Low Maintenance
Moderate Cost

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Concrete is made of portland cement, sand and pebbles, or crushed stone, and water. It is hard and durable. Concrete is the material used in building concrete dams, factories, bridges, and big engineering works like the Panama Canal requiring great solidity and strength.

Write for a free copy of our Bulletin 136. After you have read it, pass it on to your road officials, then insist that your road funds be spent for permanent concrete roads.

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PENNSYLVANIA FARMER, 261 S. 3rd St., Phila., Pa.

Cucumber Possibilities

Sweet and Sour Pickles

"We take the Pennsylvania Farmer, and would not exchange it for some of the much larger and more expensive farm papers.

"I have tried some of the recipes you have published and all I have tried are surely fine. In your August 11 issue you have a recipe on how to put up cucumbers, and it says to use a dill plant. Can you tell me what this is? Some one told me it was our common parsley. And is this recipe all right to put up small pickles so they will be sweet like those bought from the stores?" — Mrs. S., Turbotville, Pa.

Thank you for your appreciation of what we are trying to make our Pennsylvania Farmer do for our readers, both women and men.

The recipe indicated will make not a vinegar pickle but a dill pickle, which has a pleasant puckery, salty flavor. The dill weed or plant is not common parsley, but a plant similar to the caraway plant. Its seeds are borne similarly in umbrella-like clusters, and are used for flavoring pickles, while caraway seeds are better liked for spicing cookies. Both plants belong to the carrot family. You can get dill seed at your grocer's if no one in your locality has the plant in her garden. Better sow some next spring. All such garden herbs come in handy for spicing.

You can make sweet pickles out of the dill pickles made as described in our August 11 issue. We give directions in the "Cucumber Possibilities" recipes that follow.

Sweet pickles like those bought in the store are best made by the cold process sweet pickle recipe given in the following list of recipes.—The Editor.

We find as essentials to good pickles two things: First, fresh cucumbers, carefully cleaned, and second, good recipes. And do not use alum to make them crisp, for it is injurious to digestion and health.

Sour Pickles.—Here is a recipe which has been very successfully used: Place the cucumbers in a stone jar and cover with brine made in the proportion of 1 cup of salt to 2 quarts of boiling water. After it has stood for 24 hours, drain off the brine, scald it, and pour over the pickles again. Let stand another 24 hours, then drain and pour over the pickles, packed in jars, vinegar which has been scalded and spiced to taste with cinnamon, cloves, allspice, peppers, and if desired, mace, mustard seed and celery seed.

Sweet Pickles (The Cold Process).—Wash the cucumbers, cover with boiling water and let stand 24 hours, then drain, wipe dry and put into cold vinegar prepared as follows: To 1 gallon of strong cider vinegar, add ¾ cup salt, 1 cup ground mustard and 2 cups white sugar. Do not pack the cucumbers too tightly in the jar, but leave them so that the vinegar is easily accessible to all parts of them. Cover the top of the jar with clean horseradish leaves. These will keep, even if unsealed, as the vinegar is strong enough to act as a preservative.

Ripe Cucumber Pickle. — Slice the ripe cucumbers. To 1 gallon of the sliced vegetables, add ½ gallon chopped onions, ¾ gallon green tomatoes, 3 tablespoons celery seed, and 1 teaspoon each of cinnamon, vinegar and sugar. Let the cucumbers, onions and tomatoes stand over night covered with salt; in the morning squeeze them almost dry, and put into sufficient hot vinegar to cover them, to which the spices and sugar to taste have been previously added.

Sliced Cucumber Pickle. — This is splendid if one likes the flavor of olive oil. One quart sliced cucumbers, 3 teaspoons celery seed, 4 onions, 3 tablespoons olive oil, 3 teaspoons black mustard seed, 3 teaspoons white mustard seed. Slice the cucumbers, let stand 24 hours with ½ cup of salt; drain, add spices, oil and the onions chopped very fine, mix well and put into cans, cover with cold vinegar and seal.

Sweet Dill Pickle.—Another unusually good sliced pickle is made by slicing dill pickles into a stone jar, sprinkling heavily with sugar and mixed spices.

HER NEW COAT AND BONNET.

Chow-Chow.—If well made, this is welcomed at any table: Cut fine and salt while cutting, 1 peck of green tomatoes, 25 ripe cucumbers, 15 large white onions, 4 heads of cabbage, 6 bunches of celery (or 1 oz. of celery seed may be used instead if desired). Let stand a few hours, squeeze dry, then heat thoroly in a solution of ½ vinegar and ½ water; when cool squeeze as dry as possible, and add ground mixed spices to suit taste. Place in a vessel, and pour over the mixture 1 gallon of vinegar in which is dissolved 5 lb. dark brown sugar. Seal immediately.

Rummage Pickle. — This vies with chow-chow for first place in the hearts of our country women—and men! Salt and let stand over night the following vegetables, which have been previously chopped or ground: Two quarts of green tomatoes, 1 quart of ripe tomatoes, 3 bunches of celery, 3 large onions, 3 red mango peppers, 3 green mango peppers, 1 head of cabbage, 1 ripe cucumber. In the morning add to this mixture, which has been drained, 3 pints vinegar, 2 lb. brown sugar, 1 teaspoon white mustard and 1 teaspoon black pepper. Cook one hour slowly, then seal.

Sweet Mixed Pickle. — Slice or chip together 2 or 3 red peppers, 1 gallon of small green tomatoes, 1 quart of sliced large onions (or little onion sets are best), 1 head of cauliflower, 1 small head of cabbage, a few string beans, ½ gallon cucumbers. Cover with brine made in the proportion of 1 cup of salt to 2 gallons of water. After it has stood 24 hours, drain and mix thoroly with a hot solution of vinegar, 4½ pounds light brown sugar, 1 quart of water, 2 tablespoons each of white and black mustard seed and of black pepper, and 3 tablespoons of celery seed. Seal while at boiling temperature.

Mustard Pickle. — A good one is made as follows. Use a mixture of all or part of the following vegetables: Cucumbers, whole or sliced, sliced green tomatoes, sliced cabbage and cauliflower, green peppers, string beans and small white onions. Cover with brine, let stand 24 hours, then drain. For every gallon of vinegar needed to cover the mixture, use ¼ pound mustard, ¼ pound salt, 1 pound brown sugar, a pinch of cayenne, 1 tablespoon of celery seed, ¼ cup of turmeric and ½ cup of horseradish. Scald the vegetables in the vinegar mixture, and pack in jars.

THE LAST OF THE PICKLES

By N. J. Agricultural College Home Economics Department

Following close upon the season of canning comes that of pickling, whether by means of brine or vinegar, spices and condiments. Pickling is often a means of saving immature fruits and vegetables threatened by early frosts. Pickles really do play quite an important part in diet, aiding the work of digestion by stimulating the flow of the digestive fluids and giving spiciness to foods rich in nutrients, but lacking in flavor.

Brines.—Brine for storing should be strong enough to bear up an egg. Brine for soaking over night, 1 cup salt per 1 gallon of water.

To cause cucumbers to retain color scald in vinegar in vessel lined with grape or cabbage leaves.

Green Tomato Pickles

1 peck green tomatoes, cored and sliced
1 doz. large white onions, peeled and sliced
6 red pepper pods, cut into small bits
1 cup mixed spices

Sprinkle the vegetables with salt, pack in stone jars, let stand over night. In the morning drain, re-pack in jars, cover with vinegar which has been scalded with the spices.

ONE OF THE FALL SUITS.
Made of tan-color soft pouree twill, with muffler collar. The turban is unique in the draping of the chiffon velvet on the frame.

Sour Cucumber Pickles

Small Cucumbers.—Wash and let stand in salt water over night. Drain, rinse, pack in sterilized jars, adding a few red pepper pods and a few whole spices, cover with boiling vinegar and seal. A small amount of brown sugar may be added.

Piccalilli

1 peck green tomatoes
8 large onions
2 red peppers
2 heads cabbage
6 green peppers

Put the vegetables thru food chopper, sprinkle with salt and let stand over night. In the morning drain off the liquid. Add to the chopped vegetables 2 quarts of vinegar, 1 pound brown sugar, ¼ pound mustard seed, 2 tablespoons cinnamon, ¼ teaspoon cayenne, 2 tablespoons ground pepper, 1 tablespoon of cloves, 1 tablespoon allspice (whole spices in a bag). Boil mixture for 30 minutes, pack in sterilized jars and seal.

Pepper Hash

12 sweet red peppers
12 green peppers
12 small white onions

Remove the seeds of the peppers, chop fine, also chop the onions. Add to these 3 tablespoons salt and let mixture simmer 10 minutes. Drain and add to the mixture 1 quart vinegar and 1 cup brown sugar. Let hash come to boiling point, pour into sterilized jars and seal. Good for sandwiches.

Sweet Green Tomato Pickle

1 peck green tomatoes, sliced and cored
1 cup salt

Sprinkle the tomatoes with salt and let stand over night. In the morning drain off the brine and scald the tomatoes for 15 minutes in 2 quarts of water and 1 quart of vinegar, then drain. Make a syrup of 1 gallon cider vinegar, 6 cups brown sugar, 5 or 6 peppers, shredded, and the following spices tied in a cheesecloth bag: 1 tablespoon white mustard seed, 1 cup cinnamon bark, 1 tablespoon celery seed, 1 teaspoon whole cloves. Add the tomatoes to this syrup and let the mixture simmer 1 hour.

COMMUNITY FEASTS AND FOOD WASTE

Why is the individual housewife attacked on every quarter for her wastefulness, and continually exhorted to save every crumb, while little or nothing is said of collective or community waste? At a recent district Sunday School picnic the table "groaned under a load" of twenty-five cakes, many of which were untasted because of the over-abundance of food. Baked beans, salads and all kinds of picnic standbys were proportionately plentiful. I am sorry to say that the table in question was that of my own home school. Perhaps I should be proud of the fact, but I feel more like lamenting the extravagance of such a display. Somehow, in these strenuous times, it is hard to reconcile the idea of such lavish waste with the ideals of a Christian organization. Indeed it never seemed right in any time for a crowd of people to meet for recreation and waste enough food to feed several times as many persons, while countless numbers of the very poor are going hungry.

Ladies' aids, granges, lodges and organized societies of every description, still continue to serve a multiplicity of foods including a great variety of expensive delicacies, and the members thereof still vie with one another to see which can furnish the greatest capacity for eating these things. Now is not all this childish, to say the least? Would it not be infinitely better to apply economy to these wholesale feasts as well as to the every-day dinner in the individual homes? Might not a ladies' aid, for instance, be just as helpful and just as enjoyable if fed on not over three or four kinds of food?

I can remember when I almost used to dread a picnic because it involved so much labor in the preparation of the dinner, but we have been gradually cutting out one thing after another until last week, when we wanted to attend a basket picnic on very short notice, we simply cut from the cob a few ears of corn left from dinner, added a few beans previously cooked, and produced a dish of succotash, of which

we are very fond. Absolutely no other cooking was done expressly for that picnic; we finished with bread and whatever we happened to have on hand, and we enjoyed the dinner just as well as a more elaborate one. Last fall we attended a fair with some neighbors; neither family had planned the trip until almost time to start. We both picked up whatever was handiest, supplementing it with hot weiners purchased on the fair grounds, and I never enjoyed a picnic dinner more. Let us extend the idea of economy to include the social feast as well as the private family dinner and thereby save much more both in labor and material. —Mrs. E. M. Anderson, Chautauqua Co., N. Y.

HOW MANY HAVE YOU CANNED?

A Westmoreland County, Pa., farmer's daughter writes us that at their house they have canned so far (Sept. 10) 348 quarts of fruits and vegetables, and will can quite a number more—have tomatoes and peaches to put up yet. They use a steam canner that affords 10 to 15 pounds pressure—the model that can be used on a gasoline stove or over one hole on a kitchen range. She says: "I have sealed every can so far myself, the rest of the family doing the preparing and packing, while I attend the canner and do the sealing". Thus the work goes very fast.

This lady writes that they have quite a good supply of apples this year, and will can and dry a good many. "We expect," she writes, "to make a lot of good things from them this winter". These people are thrifty farmers on the Westmoreland County hills, who have made enough off their farm to build a few years ago a very comfortable pretty brick home, with water, sewer and up-to-date heating and lighting. We surmise that the secret of their success lies in the attitude expressed by the daughter, who reported as just quoted, and who further added: "I like to cook, sew, garden, design (clothing and house equipment—she drew the plans for the new home), raise flowers, and everything that goes with a busy farm home."

We would like to hear from other readers about their canning work this season. Particularly we would like to have you write us how many and what vegetables you canned, how you did it and what was your success; also if you canned only for family use, or will have some to sell, and how you propose to market them, your prices, etc. We believe that your reports will be exceedingly interesting to other Pennsylvania Farmer readers, and that they will be a means of helping some other farm women. Let us hear from you. —The Editor.

USE PULP FROM JELLY MAKING

Don't throw away the pulp left in the jelly bags after the clear juice has drained out. Federal laws prohibit the use of this substance for commercial purposes, because it might masquerade as a whole-fruit product. It is wholesome, however, and there is no reason why it should not be put to family use. One of the most satisfactory products that can be made from fruit pulp is fruit paste.

Fruit Paste

This is a type of confection or dessert and may be made from apricot, quince, gooseberry, apple, cherry, plum, kumquat and other fruits. For apricots, gooseberries, and other acid fruits use 1 pound of powdered sugar to 1 pound of fruit pulp; for quince use ¾ pound powdered sugar to each pound of pulp; and for apples ½ pound powdered sugar for each pound of fruit pulp. If desired, pulp from several kinds of fruits may be mixed. If acid fruits predominate in this mixture, use approximately 1 pound of sugar to 1 pound of fruit mixture; if sweet fruits predominate, use less sugar.

Rub the fruit pulp thru a puree strainer and weigh it. Add the sugar, put the mixture over a slow fire and cook until very thick, so that when a spoon has been passed thru it the mass does not run together immediately. Pour the paste in a half-inch layer on flat dishes, marble, or glass slabs, which have been rubbed with a cloth dipped in a good salad oil. Expose the dishes to draft for a couple of days and then cut the paste into figures. If the paste is well boiled down, it is dried more easily. The paste also can be cut with a common knife or with a fluted vegetable knife, or it can be cut in round cakes, the center of which is again cut with a smaller circular cutter; there will thus be both rings and small round cakes.

Place the cut fruit paste on paper and sprinkle with crystallized sugar or common granulated sugar. Allow it to stand again a couple of days exposed to draft, dip in crystallized sugar, and pack in a tin or wooden box lined with parchment paper and with layers of the same paper placed between the layers of paste. The paste can be kept thus and served as dessert, or as garnishing on creams and custards, frozen creams, large cakes, etc.—Dept. of Agriculture.

FROM A JUNIATA COUNTY, PA., FARM

Cucumber Pickles, Cold Process. — To a particular German friend, Mrs. Sunderman, I give credit for this recipe: Per 1 gallon vinegar, allow 1 cup sugar, 1 cup salt and 1 cup dry yellow mustard. Stir well together, then, as your cucumbers are gathered, wipe them off well and drop into this preparation. They keep indefinitely. As you add cucumbers each day, try to get the fresh ones to the bottom so those on top can be used for they are ready for use in a very few days.

Waffles for Dinner.—I try to think of something extra good for dinner when the men have an extra tiresome day. Yesterday my son said to me, "Mother, that waffle dinner last Thursday will be a dream all my life. They were such a surprise and I was so hungry". I planned to have waffles once again before the lad returned to college.

Our Beef Day.—Thursday is my beef day. Each year when we sell a fattened hog husband gives me the money with which to purchase beef during the summer. I place it in the bank, and when my beef bill runs up to $5 or thereabout I check it out. By careful managing I have beef once a week for about 12 weeks in summer with the money from that one hog.—Mary S. Shuman, Juniata Co., Pa.

MAKING HER OWN MONEY ON THE FARM

Mrs. George Peters, of Clinton Co., Pa., took the first prize in a state butter contest, with a score of 91.92 percent, and also first prize in her own county, in a six months' farm butter contest last year. Customers in Mrs. Peters' home town take all the butter she can make. Last summer she supplied ten families beside her own. For twenty-five years she has been busy farming, housekeeping and raising seven children, and has never in all those years been without her own home-made butter. She has also served as secretary of the local grange for several years.

Mrs. Peters strains and separates the milk as soon as it is drawn. Her refrigerator is in warm weather a spring of cold water; in winter, the pantry window. She tests the temperature of the cream with a thermometer. If it does not ripen properly in the kitchen atmosphere, it is given a start with a pint or more of good buttermilk. The fresh cream is always cooled before it is added to the older cream, and the churning is not allowed to get too old; the cream is churned often.

The butter grains are washed once, then salted, one ounce to the pound, is worked into it, and the butter is allowed to stand while the churn is emptied and washed. Each roll is then worked separately with a smaller butter bowl, the rolls are wrapped in paper and placed in a crock in the cellar, or, in warm weather, in the spring of cold water. Nearly all the feed for their eight cows is grown on their farm.

Mrs. Peters also makes money by raising chickens and selling large numbers of eggs. Her returns from turkey raising in one year were $80. She says there is always a ready sale for cabbage, onions and pickles raised in her own home garden.—J. U. G., Center Co., Pa.

DOES IT PAY TO DRY CORN?

It surely does if done properly. I could sell half a dozen times as much this year as I have corn to dry, and at 35 cents per pound. That seems a big price, but all the trouble one goes to and the cost of growing corn this year makes it worth this price.

I gather the corn early in the morning of the day I expect to dry it, and scald it in a wash boiler. I score every row of grains once (twice if possible), cut off the tops of the grains just once, then scrape the rest out. I put cloths (cheesecloth preferred) on the dryer trays, and spread the corn on as early in the day as possible. By careful watching much can be sufficiently dry by bed time, and the remainder be beyond danger of souring. When I have a small quantity, I dry it in my cook stove dryer and other places about the stove, but my most satisfactory way is to have enough to run the big outside dryer which holds a small bucketful to a drawer, and in our dry house are ten drawers. So I can usually dry all of one picking in a day's time. Last year I sold my dried corn at 25 cents per pound. Did not get much dried for several reasons, so outside of our own needs only sold $6 worth. Still every little counts, and out of my preserving altogether I managed to make the money for most of our son's pin money at college.—Mrs. Lloyd R. Shuman.

BOILED APPLES

Nothing makes a more satisfactory dessert dish at this time of year than sweet apples cut in halves, cored but not pared, and boiled until tender in just water enough to prevent burning. We use a cup of sugar to a ten-quart kettle of apples, for thus the juice jellies more readily than without the sugar. A couple of big, juicy halves, served in a dainty tart shell or pastry case, with a spoonful of whipped cream on top makes a dessert for which one would pay 30 cents in one of New York's fashionable restaurants. — Mrs. E. M. Anderson, Chautauqua Co., N. Y.

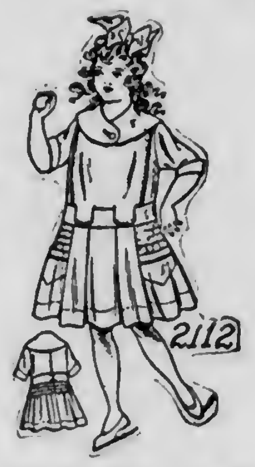
To Prevent Fat Sputtering.—If no perforated lid is available when frying meats, fish or anything that causes the fat to spatter over the stove, tear open a paper bag and lay over the skillet, or any clean piece of paper will do. Whatever you are frying will be nicely browned, and there will be no grease on your stove. Eggs fried in this way are especially fine. (Editor's Note.—By the way, this method is really not frying. We "fry" in deep fat, and "saute" in a greased pan.)

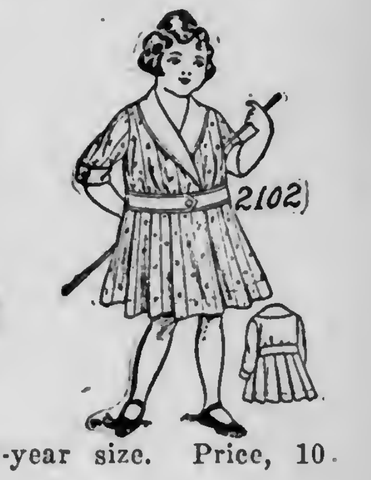
Oil Stove Flame Guide.—With a file, notch the wheel on your wickless oil stove when the flame is medium. Guided by this notch, you can easily have a higher or lower flame.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

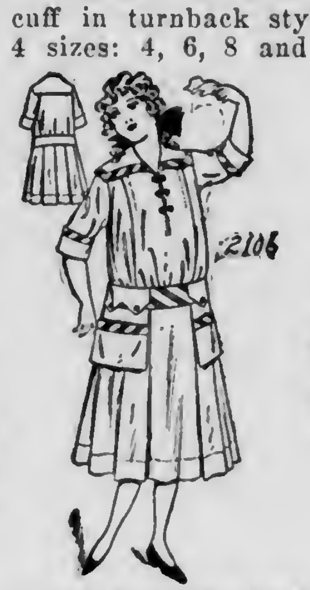
Pretty Dresses for the Girls

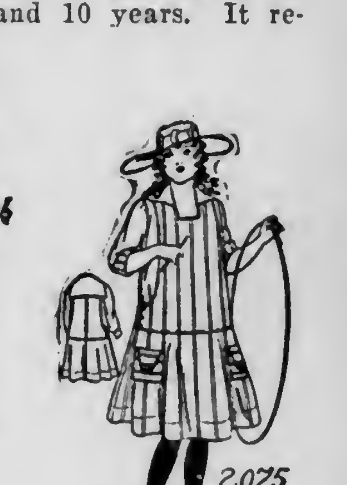




2112.—New Model.—The shaped plastron may be omitted if desired. The pattern is in 4 sizes: 4, 6, 8 and 10 years. It requires 3½ yards of 44-inch material for an 8-year size. Price, 10 cents.

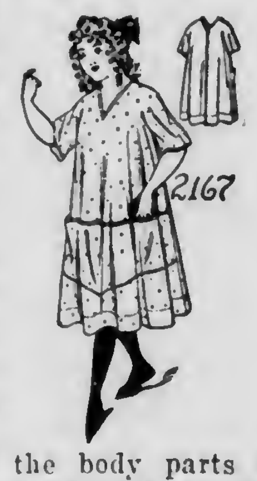
2102.—Comfortable Little Dress. — Easy to develop, and nice for any of the materials now in vogue. The front closing is practical, and makes the garment easy to adjust. The sleeve may be in wrist length, with a band cuff, or finished in short length, with the cuff in turnback style. Pattern is in 4 sizes: 4, 6, 8 and 10 years. It requires 3 yards of 44-inch material, for a 6-year size. Price, 10 cents.

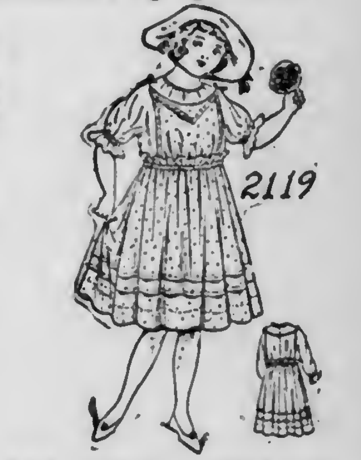




2106.—A Smart "Pocket" Dress for the Growing Girl.—In brown chambray with trimming of check or plaid material to correspond, or in linen, with embroidery on collar and other trimming pieces, this style is very attractive. The pockets may be omitted. The skirt is plaited. Pattern is in 4 sizes: 8, 10, 12 and 14 years. It requires 3⅜ yards of 44-inch material for a 10-year size. Price, 10 cents.

2075.—Another Neat Pocket Dress. — This model is fine for striped materials, also for gingham, chambray, percale, linen, drill, poplin and repp. It may be made up in combinations—gingham for the body parts and batiste, crepe or lawn for sleeve, collar and side portions. Pattern is in 4 sizes: 6, 8, 10 and 12 years. Size 10 will require 2⅜ yards of 44-inch material. Price, 10 cents.





2167.—Girls' "Cover-All" Apron.—It has a wide and ample pocket section, which may be omitted. Pattern is in 5 sizes: 4, 6, 8, 10 and 12 years. Size 10 requires 2½ yards of 36-inch material. Price, 10 cents.

2119.—Her Best Dress.—The guimpe is separate. The heading on the skirt may be omitted. Pattern is in 4 sizes: 6, 8, 10 and 12 years. Size 10 requires 2⅜ yards for the dress of 27-inch material. Price, 10 cents.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Sept. 24, 1917.

Supplies of nearly all kinds of fruits and vegetables are about normal for this season of the year. Receipts of potatoes, as is to be expected at this season, are getting heavier and on Monday there was a total of 77 cars on the track in the Pennsylvania and Reading Railway delivery yards. In addition there were 7 cars of sack potatoes at the market house depot, besides liberal supplies being hauled in by nearby Jersey farmers. Nothwithstanding these liberal supplies, there was a good demand and movement and prices generally showed no change from the closing sales of last week. Pennsylvania and New Jersey are supplying most of the potatoes at this time with a very few from the Eastern Shore. New Jersey Giants sold promptly at $1.15@1.20 per bushel, and Pennsylvania round stock at $1.30 per bushel, with extra fancy bringing as high as $1.35 per bushel. Jersey Giants in 150-lb. sacks sold generally at $2.85@2.90.

Sweet potatoes are not doing quite as well as they did last week. Receipts while not heavy are ample for all demands and while a few of the best Eastern Shores sold at $3.25 per barrel, the bulk of the sales were made at $3, and some poorly graded and slack packed sold as low as $2.25. No. 2 sweet potatoes sold practically on last week's basis, ranging all the way from $1.25@$1.75 as to quality. Jersey sweet potatoes continue to increase in supply, and prices are somewhat lower than last week, most sales being made from 80@85c per ⅝-bushel basket, with some extra fancy at 90 cents and some poor at 75 cents. No. 2's are holding steady at 40@50c per ⅝-bushel basket.

Vegetables

While the offerings of both green and wax beans continue light, there has been no advance in prices because of the generally poor quality of the offerings. Green beans are only bringing from 50 to 75 cents per basket and wax beans from 60 to 85 cents per basket, altho these prices would be easily exceeded by strictly fancy young beans. Lima beans are much higher than last week and are selling as high as $1.50 per basket, some, however, are showing poor quality, and these are ranging from 90 cents to $1.25. No change can be noted in either beets or carrots; beets ruling steady from $2 to $3 per 100 bunches and carrots from $1.50 to $2 per 100; ⅝-bushel baskets range from 60 to 75 cents. Loose beets in barrels are gradually appearing and selling around $3 a barrel. The cooler weather prevailing had a good effect on the cabbage market and altho supplies are a little heavier than last week, prices ranged about $2 per ton higher, with best stock selling at $24 and poor grades at $22 to $23. New Jersey cabbage sold from 35 to 50 cents per basket. Fancy corn is scarce and quickly brings $2.25 to $2.50 per 100. New York State supplied nearly all the cucumbers this week, the best of which sold at $2.25 to $2.50 per bushel, while No. 2's and choice stock sold from $1.25 to $2. Fancy celery is scarce and market advancing, best stock sold from 75 to 85 cents per bunch on Monday with other grades from 50 cents up. Eggplants are getting scarce and showing an advance of nearly 100 percent over last week's prices; now bring from 50 to 60 cents per ⅝-bushel basket. Fancy lettuce sells from $2 to $2.50 per box of two dozen heads, while poor leafy lettuce sold from 75 cents @$1.50 per hamper. Onions are in active demand and while supplies are more liberal than last week, all fancy stock moved out freely at good prices. Eastern onions ranged generally from $3 to $3.25 per 100-lb. sack, while California onions sold from $3.50 to $3.75. Okra is scarce and high, and if small size brings $3 per basket. A few Eastern Shore peas are making their appearance and selling from $2 to $2.75 per hamper. Parsley is plentiful at 1 to 1½ cents per bunch. Peppers are steadily advancing, and while green are now selling from 60 to 65 cents, and red and other varieties from 80 cents to $1 per basket; the prospects are that the market will go higher. Squash is dull at 20 to 25 cents per basket. Tomatoes show a little change from last week, and fancy sell readily at $1.25 per basket or more, but the bulk are mostly poor quality and average sales range from 75 cents to $1. Turnips are about steady but the tendency is downward with prices now ranging from 60 to 75 cents per ⅝-bushel basket.

Fruits

Altho supplies of apples are a little heavier than last week, they are still moderate and when strictly fancy are bringing good prices. There are, however, a good many poor, common and ordinary apples on the market and these are moving hard at low prices. Virginia, West Virginia, Pennsylvania and New Jersey are still supplying the bulk of the offerings, altho quite a few are coming from New York State. Wealthy, Gravenstein, Jonathans, Blush, Red Streaks, Grimes Golden, N. W. Greenings, Smokehouse, Baldwins and York Imperials were heaviest varieties this week and prices ranged from $2.75 to $6.50 per barrel; other varieties brought all the way from $2.25 to $4.50. Pears continue in light supply and meet a good demand with Bartletts bringing $4.50 to $6 per barrel, and $1.50 to $2.25 per bushel. Seckels range from $6 to $7 per barrel. Most of the peaches offered are showing rather poor quality. Some New York State fruit sold all the way from 75 cents to $1.75 per bushel. Nearby stock is also very irregular and while some fancy brought $1.25 per basket, other sold as low as 25 cents. Delaware grapes are very active and sell from 15 to 17 cents per 4-lb. basket, while 15-lb. baskets ranged from 60 to 65 cents. Plums are scarce and bringing good prices. Damsons are selling from 50 to 60 cents per 4-quart basket; prunes from 35 to 42 cents and odd varieties from 30 to 35 cents. Cranberries are in both light receipts and demand at $2 to $3 per crate. Some Eastern Shore fresh figs are selling from 8 to 12 cents per quart. The season for nearby cantaloupes is over, but Colorado and California are still sending supplies, the best of which are selling at $1.50 to $1.75 per standard crate of 45 melons. A few watermelons are still arriving, but the movement is very slow and draggy at $5 to $20 per hundred.

Poultry

There is very little if any change to be noted in the live poultry market. Receipts are ample for all demands which are only moderate; some of the supplies, however, are very poor and these are hard to sell even at the low range of quotations, which are about as follows: Fowls, 23 to 27 cents; old roosters, 19 to 20 cents; spring chickens, 23 to 27 cents; ducks, 19 to 22 cents; spring ducks, 22 to 23 cents. There is a fairly good demand for springers weighing 1 to 2 lbs. each, selling at 60 to 75 cents a pair, while small sizes and old bring 45 to 55 cents a pair. There is also some demand for pigeons at 20 to 25 cents.

Dressed poultry rules very firm, supplies of which are hardly sufficient for the active demand for fancy stock. Fancy fowl are selling from 29 to 31 cents, with smaller sizes at 27 to 28 cents. Good broiling chickens from nearby points sell from 33 to 36 cents while others sell from 25 to 32 cents, as to quality. Roasting chickens are also in good demand from 28 to 30 cents. A few western turkeys are commanding 24 to 25 cents and the few spring ducks that are being offered bring 25 to 27 cents.

Eggs

There has been practically no change in the egg market for the past ten days. Supplies of fine, fresh, nearby eggs are very scarce and firm, and not sufficient for the demand. Medium grades on the other hand are more plentiful, and do not move so freely. Pennsylvania and other nearby firsts sell at 42 cents; current receipts at 41 cents and seconds 37½ cents; Western extra firsts bring 42 cents; firsts, 41 cents; seconds, 37½ cents; southern eggs, from 39 to 40 cents.

LANCASTER PRODUCE

Lancaster, Pa., Sept. 24, 1917.

With the peach season waning, prices today advanced 25 cents a basket. There was an over-supply of eggs, but the price of 48 cents a dozen was maintained and many of the sales were for 50 cents. There was a brisk demand for corn at 30 cents.

Butter and Eggs.—Creamery butter, 50c lb; country butter, 48c; eggs, 50c dozen.

Poultry. — Old chickens, dressed, $1@1.25; young chickens, dressed, 75c@$1; live chickens, $1.50@2 per pair; live chickens, old, 18c per lb.

Vegetables and Fruits. — Tomatoes, 60@90c per basket; do., 12@15c ½-pk; parsnips, 5c box; spinach, 5c ½-pk; new turnips, 5@10c ½-pk; carrots, 5c bunch; potatoes, 12@18c ½-pk; $1.10@1.30 bushel; sweet potatoes, 30c ½-pk; cabbage, 2@8c head; pickles, 40@50c per 100; eggplant, 5@10c each; cauliflower, 15@20c head; lettuce, 5@12c head; squash, 4@5c each; lima beans, 10c pint; new beans, 20c ½-pk; corn, 15@25c per dozen; watermelons, 40@60c each; peaches, 20c ½-pk; $1@1.25 basket; pears, 15c ½-pk; cantaloupes, 3@20c each; apples, 10@20c ½-pk.

Grain Market.—Wheat, $2 per bu; damp wheat, $1.70 per bushel; ear corn, $1.80; corn, $2.08 per bushel; rye, $1.55 per bushel; timothy hay, $18@19 per ton; mixed hay, $16@18 per ton; wheat straw, $11@12 per ton.

YORK PRODUCE MARKET

York, Pa., Sept. 24, 1917.

The late crops were even more greatly injured by the early frosts than at first thought. There will be a great scarcity of beans, late corn, tomatoes, etc. The latter are selling high for some time and will now go higher. Good apples are in very light supply and sell high. Onions and cabbage seem to be a short crop again. Potatoes are very uncertain. Farmers think they ought to have more than $1.00 this year and the consumer thinks this is enough. As a result many will be stored.

Eggs.—42@46c per dozen.

Butter.—Country, 42@48c lb; separator, 45@48c. Milk, 10c quart.

Vegetables. — Potatoes, 10@18c ½-pk; $1.15@1.25 per bu. Cabbage, 2@6c head. Lettuce, 4@6c head. Beets, 3c bunch. Radishes, 5c bunch. Onions, 5c bunch; 20@25c ½-pk. Lima beans, 20@24c quart. Soup beans, 35c quart. Celery, 5@8c a stalk. Tomatoes, 10c box; 20@30c ½-pk. Turnips, 15c ½-pk. Corn, 20@25c doz. Eggplants, 3@8c each.

Fruit.—Apples, 10@25c ½-pk. Plums, 3@10c quart. Peaches, 8@10c box; 50c@$1 per basket. Cantaloupes, 2@8c each. Watermelons, 25@40c each. Grapes, 5c box; 15c ½-pk.

Retail Grain Market.—Wheat, $2.15; corn, $2; rye, $1.50; oats, 75c; bran, $2 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $2.03; corn, $1.90; oats, 65c; rye, $1.25; bran, $38 ton; middlings, $48 per ton.

NEW YORK PRODUCE

New York City, Sept. 24, 1917.

Butter market is fairly active and cheese is firm. Egg market is generally weak. Market well cleaned up on fresh poultry. Potatoes in liberal supply but trading is active. Vegetables in most lines in heavy receipt and lower.

Butter.—Creamery, extras (92 score), per pound, 44c; higher score, 44¾@45½c; thirds to firsts, 40@44c; state dairy, 38@43c; ladles, 37@40c.

Cheese. — Fresh colored specials, 26@26¼c; white, 26@26¼c; undergrades, 12@19½c.

Eggs. — Fresh gathered extras, 45@46c; extra firsts, 43@44c; nearby white, fine to fancy, 58@60c; ordinary to good, 45@57c; browns, 48@50c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 33@36c; old roosters, 22c; squabs, $1.00@5.00 per dozen. Spring ducks, per lb., 24@26c; turkeys, fresh killed, 25@37c.

Live Poultry.—Fowls, fancy, heavy, 27c lb; do., average run 26c; do., small or poor, 25c; chickens, fancy, heavy, 26c; do., average run, heavy, 25c; do., average run, Leghorn, 25c; do., small or poor, 22@23c; old roosters, 19@20c.

Vegetables and Greens.—Beans, per bu. basket, $1@1.75. Beets, per bbl., $1.50@2.50. Onions, per 100-lb. bag, $2.00@3.00. Potatoes, Jersey, $2.05@3.90 per bbl. Carrots, $1.50@1.75 per bbl. Corn, per 100, $1@3; cucumbers, 75c@$1.50 bas; peppers, per bbl., $2.50@4.50; tomatoes, Jersey, $1@2.25 per box.

Apples.—Wealthy, $3@6 per barrel; Duchess, $3@5; Gravenstein, $3@5.50; Summer Pippin, $2.50@5.50; ordinary sorts, $2@4.

Peaches.—Delaware and Maryland, 75c@$2 carrier; Jersey, Elberta, $1.25@2 per carrier; do., Belle of Georgia, $1@1.75 per carrier; do., other kinds, 75c@$1.50 per carrier; do., 50c@$1 bushel basket; do., 25@60c per basket; Pennsylvania 60c@$1.75 per carrier.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., Sept. 24, 1917.

Calves were more freely offered and ruled weak and lower. The receipts were 2,176 head, against 2,063 last week. City dressed stock sold at 22 to 23 cents; country dressed, 19 cents.

Hogs.—Offerings were only moderate, and the market ruled firm and higher. Best western, live, brought $20 to $20.50 per hundredweight. City dressed stock, 27c.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., Sept. 24, 1917.

The receipts of cattle for today's market were 277 cars; 25 cars more were delayed between Pittsburgh and Harrisburg. Had they arrived today's supply would have been 302 cars, one of the heaviest if not the heaviest supply in the history of the local stock yards. Those arriving came from Virginia, 122 cars; Chicago, 98 cars; St. Paul, 21; Buffalo, 11; Maryland, 5; Pennsylvania, 5; New York, 4; Detroit, 3; Indianspolis, 3; Cincinnati, 1; Pittsburgh, 1 car.

A well-known local cattle saleman a few days ago in describing a new automobile which he had recently purchased said that it had no "self commencer" on it. The same could be said of the cattle market this morning. It wasn't a "self commencer", and salesmen had to "crank" awful hard to get the machinery moving. But at that it wouldn't "speed up". It ran on "high gear" for stockers and feeders and "low gear" for butcher cattle, and when the day was done, not more than two-thirds of the crop had made the journey to the scales.

The report of 40,000 cattle in Chicago today and 40,000 head in Kansas City, coupled with the heavy run here acted as a "Depresser" on the market for all kinds of killing stuff, except fat cows and fat oxen. Some salesmen thought butcher steers and heifers, particularly the butcher steer end, sold 25 to 40 cents lower. The best car of butcher steers on sale came from Virginia, were of good quality and had a good bit of fat on them for their size. They weighed 1,050 lbs. and sold at $12.35. Another car of Virginia steers that weighed 1,287 were coarse but fat and sold at $12.25. Another car from the same place, that had better quality, but not as much fat, weighed 1,180 and sold at $12.05. Quite a number of cars of a fair grade of Virginia steers sold at $10.50 to $11.50. One load of very good W. Virginia heifers weighed 1,050 lbs. and sold at $11.25. Another car of good Virginia heifers weighed 850 lbs. and sold at $10.

A very large number of Virginia heifers weighing 700 to 850 lbs. sold at $8 to $9.50. A plain kind that showed only a suspicion of kill, weighing 600 to 700 lbs. sold at $7 to $7.50. Good cows for killing purposes weighing 1,000 to 1,100 lbs. sold at $8.50 to $9. Choice oxen weighing 1,200 to 1,300 lbs. sold at $11 to $11.50 with a few extra good ones on the steery order fetching $12 to $12.25. A fair grade of oxen for butcher's purposes sold at $8.50 to $10 and a common kind at $7 to $7.55.

There was a very large supply of stockers and feeders on sale, and a good many buyers for them, but at that they were not all taken and at the close of business, a good many cars of a desirable kind, weighing 800 to 900 lbs., remained unsold. This class of cattle cost 40 to 50 cents per cwt. more at Western markets last week than they did the week previous, but a corresponding raise in price could not be effected here today, because the supply was in excess of the demand. The best that salesmen could do was to get an increase of 15 cents per cwt. over last Monday's prices for similar kinds.

One bunch of steers (20 head) that were shipped here to sell for beef, weighing 1,174 lbs., had very good quality and lots of flesh, and quite some fat, were taken by a York County farmer for a 100-day feed, at the record-breaking price of $13.35 per cwt. The next highest sale was a bunch of 1,100 lb. feeders to a Lancaster County farmer at $12.50. Another bunch of black cattle weighing about $9.25 went at 12c per lb. Another bunch of Durham steers weighing 990 lbs. went at $11.85. Lebanon County was represented in the purchase of feeders, in one car weighing 975 lbs. at 11 cents and still another car of the same kind weighing 960 lbs., at $10.75. One car of very nice quality Roan Durham steers, averaging 830 lbs. went to the Hershey Farms in Dauphin County at 10 cents per lb. A Chester County farmer took a car of 1,090 lb. dehorned Durhams at $11.25. Several bunches of Canadian dehorned feeders weighing 900 lbs. found takers at $10.75, and one bunch of fancy little steers that came from Chicago weighed 810 lbs. and sold at $10.35.

There was a long string of sales of a fair kind of feeders weighing 750 to 850 lbs. at $9 to $9.75. A grade that were dehorned but couldn't boast of much fineness in quality weighing 750 to 850 lbs., sold at $8.25 to $8.75. A plain kind weighing from 600 to 800 lbs. sold at $7.40 to $8, and common light weight stockers 400 to 900 lbs. sold from $6.90 to $7.25. Stock bulls were fairly plentiful and sold about steady. A few fancy ones brought as high as 9 cents per lb. A kind that was called good went at $8 to $8.50, and a common to fair grade for $7 to $7.75.

The hog market was active. Good Western hogs weighing 200 to 250 lbs. sold at 20 cents per lb. and Lancaster County-fed hogs at 19 to 19½ cents per lb.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Sept. 24, 1917.

Baled Hay and Straw.—Receipts, 144 tons of hay and 1 car of straw. The limited offerings of hay of desirable quality were kept well cleaned up at top prices. Straw ruled firm with demand fair.

Timothy hay, No. 1, large bales, $21; No. 1, small bales, $21; No. 2, $19@20; No. 3, $16@17; sample, $11@13. Clover-mixed hay —Light mixed, $19@19.50; No. 1 do., $17.50@18; No. 2 do., $15.50@16.

Straw.—No. 1 straight rye, $13.50@14; No. 2 do., $12.50@13; No. 1 tangled rye, $12.50@13; No. 2 do., $11.50@12; No. 1 wheat straw, $11@11.50; No. 2 do., $10@10.50; No. 1 oat straw, $11@11.50; No. 2 do., $10@10.50.

Note.—It is hard to determine the exact total of hay for the local trade coming to this market, as a considerable quantity of the arrivals is probably for export.

Bran.—The market ruled steady under light offerings, but trade was quiet. Quotations, car lots, including sacks:

Soft winter bran, in 100-lb. sacks, per ton, $37@37.50; spring bran, in 100-lb. sacks, per ton, $35.50@36.

Wheat.—No. 2 red, $2.26; No. 2 soft red, $2.21; No. 3, soft red, $2.21.

Oats.—No. 2, white, 65½@66c; No. 3, 64@64½c.

Corn.—No. 2 yellow, $2.20@2.22.

PITTSBURGH HAY MARKET

Pittsburgh, Pa., Sept. 24, 1917.

Hay.—The famine on hay to this market still continues. The consumers and dealers are beginning to become frantic for hay of any description. Market is steadily advancing. There is also an excellent demand for clover and clover mixed hay and prairie.

No. 1 timothy, $22.75@23; No. 2 timothy, $21@22; No. 3 timothy, $18.50@19; No. 1 light mixed, $20.50@21; No. 1 clover mixed, $19@19.50; No. 2 clover mixed, $17.50@18.50; No. 1 clover, $20@20.50; No. 2 clover, $17@18.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Sept. 24, 1917.

Butter. — The market ruled firm, but wholesale trade, as usual on the last day of the week, was quiet. Fancy solid-packed creamery readily brought outside rates, while the under grades were well cleaned up at inside figures. Prints of fine quality were well cleaned up and firm, but unattractive qualities were quiet and somewhat irregular in value.

Western, fresh, solid-packed creamery, fancy specials, 47c; extra, 45@46c; extra firsts, 44c; firsts, 43½c; seconds, 42½c; nearby prints, fancy, 49c; average, extras, 47@48c; firsts, 44@45c; seconds, 43c; special fancy brands of prices were jobbing at 52@55c.

Cheese.—Demand was only moderate, but offerings were light and the market ruled firm at the recent advance.

New York full cream, fancy, June, 26¾@27c; specials higher; do., fresh made, best, 25¾@26½c; do., choice, 25@25½c; do., fair to good, 24@24½c.

ELGIN BUTTER MARKET

Elgin, Ill., Sept. 22, 1917

Butter.—Bids, 48¼c; no sales.

NEW YORK MILK MARKET

New York City, Sept. 24, 1917.

The situation here is tense. Producers and dealers are issuing statements charging each other with being trusts. The dealers are waiting before deciding what action they will take regarding price until Mr. Hoover speaks. They propose to abide by what he says so far as price to the producers is concerned, reserving the right, however, to carry the increase over September rates to the consumer. They feel that they should make at least ½ cent a quart, and therefore cannot afford to pay from 1½ to 2 cents a quart increase to the producer without raising the retail rate. The Borden company has announced that it will close twenty shipping stations on October 1 and it is reported that the Sheffield Farms Company will close several on the grounds that they cannot manufacture the large surplus profitably.

The Dairymen's League rates for Grade B (barn score 55) for September to the producer in the 26-cent zone are: $2.55 a hundred for 3 percent milk; $2.76, or 5.86 cents a quart for 3.6 percent; and $2.90 for 4 percent milk.

The receipts of milk and cream in 40-quart cans for the week ending September 22 were as follows:

Railroad	Milk	Cream
Erie	40,342	1,662
Susquehanna	4,337	20
West Shore	11,290	1,265
Lackawanna	64,296	1,962
N. Y. Central (long haul) including Rutland	125,096	2,741
Ontario	32,832	2,144
Lehigh Valley	36,982	1,244
New Haven	3,295	4
Pennsylvania	11,210	460
Other sources	6,650	225
Totals	336,330	11,727

TOBACCO MARKET

The recent untimely frost was more extensive and damaging than at first reported. The most conservative estimate places the loss at $500,000 and others are of the opinion that it is much greater. In some localities two to four of the top leaves of each plant are ruined and the next two or three so seared as to require continued favorable weather to enable them to grow out. The damage varied greatly even in adjoining fields, the colder currents have apparently moved in streaks. Northern exposures suffered relatively more but altitude seemed to have little influence. In some places growers resorted to the unusual method of smudging by burning bales of straw at intervals during the time of frost, and it is said that the protection was complete. As usual in such instances growers are hustling to get their yet immature tobacco cut and under cover. This may be regarded as the wrong thing to do as all damaged plants should be left afield to grow out and the whole crop being late it is well to take some further chances for the gain that is almost sure. But few sales have been made since the frost, but it is sure that values have not been reduced. In one locality some seventy-five acres were contracted at $20.10 and 6 per cwt. Growers are not in a selling mood, more or less to the displeasure of buyers, who are afraid of the future in prices which they reason quite well will not be to their advantage. We have the somewhat novel statement that buyers are sore because growers will not sell after they (the buyers) have so favored them by giving outside prices in past years. —H. E. Tweed, Sept. 24, 1917.

Dairy Cattle

Public Sale---Oct. 6th
40 Reg. Holstein Cattle
Reg. Berkshire, Poland China and Chester White Hogs
At Harvest Home Picnic, Red Bridge Park, Chambersburg, Pa. Sale at 1 P. M. Send for Catalog.
S. R. MILLER, Chambersburg, Pa.

Spot Farm Holsteins $15 to $20
For high grade calves either sex express paid in lots of 5. 40 large high grade and 12 registered Holstein cows due in Aug. and Sept. 35 registered heifers 1 to 2 years old. 40 high grade heifers, and registered bulls.
JOHN C. REAGAN, Tully, N. Y.

"NO HORNS"
Naturally Polled Holstein-Friesian
bull calves, sired by a son of the World's Record senior 4 yr. old, 1294.7 lb. butter in 365 days, at $100 and up. Descriptive catalog for stamp.
GEO. E. STEVENSON & SONS, Clarks Summit, Pa.

STEVENS FARM HOLSTEINS
Grade Holstein heifer calves $15 to $20, sired by a son of a 20 lb. cow who has a 26 lb. full sister. Dams to these calves are some of the greatest producing cows in Cortland County. Two grade calves & reg. bull calf, $60.
PAUL H. STEVENS, CORTLAND, N. Y.

Holsteins Herd of 35 cows, 15 heifers, 5 bulls to choose from. Half grade and half registered. All have a 3-year cow testing association record for milk production. Some with A. R. O. records. Plumlyn Farm, Fairview Village, Pa. (near Norristown)

Holstein Calves 4 registered heifers, 3 bulls from a 30 lb. sire; also 2 record cows. Write for prices and pedigrees.
WALTER M. CRUTTENDEN, Wilkes Barre, Pa.

Belle Alto Guernseys Registered Promising young bulls for sale, 1 to 6 mos. at very reasonable prices. M. H. McCallum, Mgr. Belle Alto Farm, Wernersville, Pa.

Reg. Holsteins Pair of young cows. One has creditable A.R. O. record. Both are big cows and good producers. Bred and priced right.
WILLIAM S. KER, R. D. 9, CARLISLE, PA.

Holstein Bulls from A. R. O. dams. Write your wants; they are priced to sell. M. E. Baschoar, Crystal Spring Stock Farm, Littlestown, Pa

Jersey Calves Both sexes. Fine stock of the most noted pedigrees in the world. FRED G. W. RUNK, ALLENTOWN, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd.
BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Registered Holstein bull and heifer calves from a ton show bull and heavy milking dams. Best breeding. Write I. V. OTTO, CARLISLE, PENNA.

Ayrshires young A.R. cows, bull and heifer calves. Best blood lines, reasonable prices. Inspection invited. Robert Templeton & Son, Ulster, Pa.

Poultry

S. C. W. Leghorns "Tom Barron Strain." The large kind, prolific layers. Breeding stock for sale. 1 1-2 lb. cockerels from imported high record sires, $1.25 each, five or more $1 each. These cockerels will cost you $10 next season. Order from adv. IVYWOOD POULTRY FARM, Box 71 A. Avondale. Chester Co., Pa.

S. C. White Leghorn baby chix, pullets, hatching eggs, 250 egg strain. Long deep bodies, yellow legs & beaks & large red lop-over combs.
A. R. GRAVES, R. D. 2, REXVILLE, N. Y.

S. C. White Leghorn yearling hens and cockerels for sale. Tom Barron Strain. Prices low on these wonderful layers.
C. P. SHIREY, STEWARTSTOWN, PA.

S. C. W. Leghorns pullets & cockerels, March hatch, from 200 to 230 egg hens. Cockerels at $2 ea.—3 for $5 for Oct. delivery only at these prices. Hildri View Farm, Box 17, Mt. Bethel, Pa.

612 Leghorn Pullets for Sale—April hatched—farm raised—REYNOLDS FARM, R. F. D., Annandale, N. J.

Chicks S. C. W. Leghorns 6c & up. Money refunded for dead chicks. Circular free. W. A. LAUVER, McAllisterville, Pa.

HENS S. C. White Leghorn yearlings Barron—Wycoff strain $1.25.
R. S. GOOD, PEACH BOTTOM, PENNA.

Dogs

HOUNDS—HOUNDS—HOUNDS
Fox, coon & rabbit hounds, broke to gun & field; young hounds on hand; also ferrets at $4 ea. Send for photos.
H. C. LYTLE, FREDERICKSBURG, OHIO.

Swine

Durocs A choice 2 yr. old service boar; also Spring boars & will be bred for Mar., Apr. & May. Write your wants. Ira D. Jackson, R.10, Vanwert, O.

O.I C.& Chester White Spring boars & gilts reg. free; Satisfaction & safe del. guar.
JOHN L. VAN HORN, TROY, PENNA.

Large Berkshire Swine Registered High Grade. Prices reasonable. Write
HOME FARM, CENTER VALLEY, PA.

Registered Berkshires Large litters. Fall pigs priced right.
L. C. TOMKINS, ELTENTON, PENNA.

COUNTY NOTES

Broome Co., N. Y., (S.E.) Aug. 27.—Weather very changeable, with frequent heavy rains. Considerable hay yet to be gotten in. Oats are being harvested; grasshoppers damaged them and now the blackbirds are doing more damage. Binghamton's new curb market is proving a great attraction to both produ and consumers. There were 71 wagons on the market last Saturday morning. Green corn was offered in large quantities. It started at 25 cents a dozen but soon fell and finally reached 15 cents. Cucumbers brought 50 to 75 cents per 100; beans, 5 cents per quart or 3 quarts for 10 cents; beets, 3 cents bunch; onions, 3 cents bunch; apples, 5 cents quart. A small lot of fine strawberries sold quickly at 25 cents per quart. Honey, 18 cents lb; cabbage, one cent lb; eggs, 45 cents dozen; butter, 45c lb; tomatoes, 5 cents lb; potatoes, 40 cents pk. Live fowls and ducks were in great demand at 20 cents per pound. The first wagon arrived at the market at 4.20 in the morning and was sold out in 30 minutes. The market closes at 10 A. M. Some producers came from long distances. Johnson City also opened a new market last week and met with great success. They are using a vacant plot in the center of the city and are already talking of building a covered market. The popularity at present is no doubt increased by the novelty. It remains to be seen if they will hold up.—C. H.

MARYLAND COUNTY AGENTS AND EXTENSION WORKERS.

Lebanon Co., Pa., (S.E.) Sept. 17.—Weather is wet and cool. Had a severe frost on the 11th. Tobacco growers had just started cutting and about 30 percent of the crop is lost. The wheat seed beds are about all prepared. Farmers were busy filling silos this week. Wheat is $2.20; corn, $2.30; oats, 70c bu. Some potatoes have been harvested and the yield is below average.—Leonard F. Strickler.

Venango Co., Pa., (N.W.) Sept. 10.—Weather for August was excellent for work, fine today. Live stock in good condition and high in price. Not over 10 percent of the corn in this part of the country will ripen this fall. Buckwheat is very late and much of it may not ripen. Apples are a failure. Eggs, 50c; butter, 50c; potatoes, $2; veal, 18c; chickens (alive), 18c; young, 20c Farm work is well along. Some wheat sowed, and much will be sowed this week. General conditions not as good as we would like.—W. J. Pringle.

McKean Co., Pa., (N.) Sept. 10.—Cool and threatening frost. Cattle are looking good. All unprofitable stock is being sold. H. J. Dieter has advertised a sale of Jerseys for next month. New oats, 85c; corn, $2.55; potatoes, $1.60; butter, 50c; fresh eggs, 55c. Work is behind. Some oats are out yet. Potatoes are looking good. Buckwheat is uneven; the best is filling good.—R. C. Fuller.

Mifflin Co., Pa., (C.) Sept. 14.— No soaking rain for three weeks or since August 15, leaving the ground very dry. Plowing hard on Sept. 6. Had some rain on the night of the 7th. Beef cattle plenty just now, selling at 8 cents lb; hogs, 9@10c, very few for sale yet. Good cows bringing good prices. Wheat, $2; old corn, $2; oats, 75c; butter, 35c; eggs, 35c; picked apples, 80c. No market for potatoes. Farmers preparing for seeding. Very little seeding done yet. Some corn ready to cut, will be only three-quarter crop on account of dry weather; is better in northern part of this county. Filling silos is in full sway at present. Farm labor scarce; wages, $2. Oats yielded from 50 to 65 bushels to the acre; wheat from 20 to 25 bushels per acre. —J. H. Byler.

N. Y. VEGETABLE GROWERS' ASSOCIATION

The New York State Vegetable Growers' Association is planning for full representation for the state, at the tenth meeting of the Vegetable Growers' Association of America, which is to be held at Springfield, Mass., October 10 to 13. Parties are being formed in the leading vegetable centers to make the trip, some by motor and some by rail. The chance for an outing over solid macadam roads thru New York State and over the Berkshires, at a most charming season of the year, is tempting a great many growers. Neither does one feel that he is "playing hooky" for it pays in dollars and cents to "rub elbows" with the best vegetable men from all over the country. Many a time have men gained ideas which they carried back home and put to work on their own places to advantage, amounting to hundreds of dollars. Such a meeting, with its round table program and its enthusiastic personal contact, leads men to see things from new angles and sends them home with new enthusiasm for improved methods.

Among the topics that are to be discussed are: (1) Nation's Food Supply and the Market Gardener; (2) Growing Vegetables without Animal Manures; (3) The Vegetable Grower, the Dealer, Consumer; (4) Seed Growing on the Farm; (5) Storage Problems; (6) Drying and Evaporating; (7) Auction Marketing; (8) Market News Service.

The First National Vegetable Show is to be held at Springfield at the same time. There has never been offered such an opportunity to compare the types and varieties of vegetable crops as grown in all sections of the country. Organizations and individuals from all parts of the United States have already filed their entries.

The Springfield markets, the nearby market gardens and the onion and tobacco fields of the Connecticut Valley are all to be visited on the last day of the meeting.

The word among vegetable men is "In Case of Doubt, Go To Springfield." —Paul Work.

LATE BULLETINS

Other Kinds of Bread.—This is the title of Circular 89, put out by the Extension Department of the University of Wisconsin, Madison, Wis. It gives directions for making kinds of bread that are not in common use. Among the detailed recipes are White Bread by the Starter Method, White Bread, Sponge Method, Quick Method White Bread, Whole Wheat Bread, Graham Bread, Bran Bread, Barley Bread, Rye Bread, Rolled-oat Bread, Potato Bread, Boston Brown Bread, etc. There are also a number of directions for the use of bread crumbs and bread waste. The circular is mailed from the above address.

Pennsylvania Breeders.—Bulletin No. 286, of the Pennsylvania Department of Agriculture, gives a list of the owners and breeders of registered live stock in Pennsylvania. The list covers practically all breeds of horses, cattle, sheep and swine. The bulletin is free upon request addressed to the above department, Harrisburg, Pa.

1917 Overland Sale
We have purchased from the Overland Motor Co., of Philadelphia, former Overland Agents, all their 1917 Demonstrating and 1917 and 1916 Used Overland Cars. We bought these cars at a terrifically low price and shall sell them at a
Price Never Known Before
For an Overland Car. They are all like new. Also 1000 other cars, including every known make, in 1917-1916 models, $200 up. Write today for our Fall
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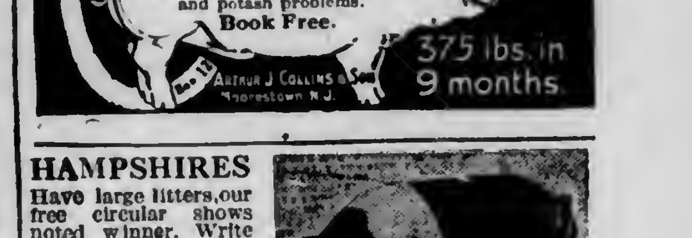
It's FREE
and full of valuable information for the man who expects to buy a car and save money.
Roman Auto Co.
WORLD'S LARGEST AUTO DEALERS
203 N. Broad St., Phila., Pa.

Swine

Berkshires
of Size and Quality
The boar, Majestic Mammoth 229590, weight 407 lbs. at 7 months old was bred and grown by us. When you want the best and want them big, write to—
C. H. Carter, Whitguern Farm, West Chester, Pa.



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Quickly turns corn to coin--cheaper feeds to choicest pork. Makes farming pay better--solves labor and potash problems.
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375 lbs. in 9 months.
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HAMPSHIRES
Have large litters, our free circular shows noted winner. Write for it. Also registered Guernsey bulls.
Locust Lawn Farm
Bird-In-Hand.
Box 2. Lanc. Co, Pa.

Fancy big type improved Chester White pigs, sired by this 800 lb. show boar, and from fine large sows. Pigs shipped on approval.
C. E. Cassel, Hershey, Pa.

Reg. P. Chinas, Berkshires, C. Whites. Large strain, all ages, mated not akin. 8 weeks pigs, bred sows, service boars, Collie and Beagle dogs. Grade Guernsey calves and poultry.
P. F. HAMILTON, COCHRANVILLE, PA.

Chester Whites Big Type. Write your wants. We can fill them.
R. L. MUNCE, CANONSBURG, PENNA.

Duroc Jerseys of size and quality for profit. Any age. Fall pigs $9 and up.
H. ED. BARCLAY, R. D. 4, SOMERSET, PA.

Berkshires large typey fellows, Masterpiece-Longfellow blood lines. Also Reg. Holstein-Friesian bull calves, King Segis & De Kol 2nd, Butter Boy 3rd breeding. Jno. C. Bream, Gettysburg, Pa.

Chester Whites & Berkshires pigs 6 & 8 weeks old. 2 Chester White Boars 4 mos. Write your wants.
I. R. TANGER, YORK SPRINGS, PA.

Reg. Poland Chinas Sired by or bred to 1-2 ton boars—Cholera immuned by the double treatment. E. Rowell, Scottsburg, Va.

Big Type Poland Chinas Herd boar; sows bred for Oct. farrow; choice Aug. pigs. R. H. LYLE, Cadiz, Ohio.

Berkshires for Feeders. 6 weeks old, pure bred. $9 each, either sex. Small supply.
CLOVERDALE FARM, Charlotte, N. Y.

Reg. O. I. C. "Ferndale Stock Farm." Salem Ind. Big type. Prices reasonable. Prize blood. M. U. JOHNSON, ASHTABULA, OHIO.

Reg. O. I. C. Boar, weight 350; a good sire of large litters. Also May farrowed pigs. L. F. NICHOLAS, Mt. Bethel, Pa.

Berkshires high class pigs for sale, Aug. & Sept.—Masterpiece blood cheap.
W. J. McCONNELL, OXFORD, PA.

LARGE BERKSHIRES AT HIGHWOOD
Service boars, bred sows, pigs all ages.
H. C. & H. B. HARPENDING, Box 45, Dundee, N.Y.

High Grade Reg. Berkshires for sale. Satisfaction guaranteed or no pay.
W. S. JOHNSON, BERWICK, PA.

CHESTER WHITES and POLAND CHINAS All ages. Registered free. Jersey bulls.
J. A. BOAK, ROUTE 4, NEWCASTLE, PA.

Reg. O. I. C. Special sale on fall pigs, for Oct. delivery from best blood lines procurable. Hildri View Farm, Box 17, Mt. Bethel, Pa.

BIG TYPE POLAND-CHINAS. Choice pigs, either sex. Prolific, growthy, easy feeders. Price right. O. C. POWELL, Ada, Ohio.

SPECIAL rates are made for live stock advertisements. Full terms on request.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Stocking.—I have a nine-year-old pacing horse that seems to stock while standing in stable overnight. Have tried several kinds of feed which seems to be perfectly well-balanced, but the horse remains in same condition. T. L. G., Mendenhall, Pa.—Give him ½ dram ground nux vomica, one dram powdered sulphate iron and one dram acetate of potash at a dose in feed, two or three times a day. The horse should be exercised daily and bowels kept open.

Contagious Abortion.—I have been troubled with abortion in my dairy herd. I thought I was rid of it, but have just had three cows abort; one a heifer with first calf. Would it do any good to keep a goat? I understand some people keep a goat as a guard against abortion. T. B. M., Meadowbrook, Pa.—If you kept a flock of goats, it could in no possible way have any effect in preventing abortion. It is well known by veterinarians and dairymen that there has not yet been discovered a sure and certain remedy for contagious abortion. However, by exercising due diligence in keeping your cow stable clean and thoroly disinfected; also, keeping your cow yard clean, it will have a tendency to eradicate abortion. In the course of time your cows will perhaps carry their calves the full gestation period; therefore, you had better keep your cows instead of disposing of them and buying others, which are perhaps infected. If your cows have a vaginal discharge, inject them with a solution made by dissolving one dram permanganate potash in three quarts tepid water. There are several commercial remedies on the market and doubtless every one of them possess more or less merit; therefore, it would perhaps be no mistake for you to give one of them a trial.

Bloody Milk. — For the past three weeks my four-year-old cow has occasionally given bloody milk from one quarter of udder. I have applied different remedies, but they fail to cure her. Several of my neighbors have had cows that gave bloody milk and sold them on account of it. C. H. C., Uniondale, Pa.—Rough milking, stepping over door sills, over fence rails, logs in woods pasture and bruising udder while lying on uneven floor are common causes of cows giving bloody milk. Frequently a sudden change of feed from a scant allowance to a generous supply may cause a cow to give milk that is tinged with blood. Unless you can ascertain the cause of cow giving bloody milk, better leave her alone. She should be carefully milked, well bedded and if other cows are inclined to hook her, she should be kept in a separate lot until she gets well.

Chronic Vaginitis.—We have a three-year-old heifer that freshened the 20th of May last. She had a fine large bull calf, which left her in a very weak condition for quite a while. Since then she has been troubled with vaginal discharge and fails to come in heat. We have washed her out several times, but this does not seem to do her any good. G. S., Corning, N. Y.—Dissolve one dram permanganate of potash in three quarts of clean water and wash out vagina with fountain syringe, three or four times a week. Give her two tablespoonfuls of cooking soda at a dose in feed or drinking water, three times a day.

Weak Young Pigs.—I am a reader of Pennsylvania Farmer and always read the veterinary column. Some two weeks ago we had fifteen pigs and some of them commenced to have small blotches or sores on body which gave off a bad odor. They gradually grew worse and in a few days died. These pigs were from three different sows that ran in good pasture and had some chop; besides they were well bedded. H. K., LaPorte, Pa.—It is not an easy matter for me to tell just what ailed your young pigs; however, I am inclined to believe they were weak and died from the effects of food infection of some kind. During the summer months too little attention is paid to keeping feed troughs and feeding utensils clean and free from infection; besides, their pen and yard are not cleaned often enough. Apply 1 part coal-tar disinfectant and 40 parts water, once or twice a day, to sores on those remaining.

DAIRY CATTLE JUDGES

W. E. Skinner, general manager of the National Dairy Show Association, has announced special cattle days at the National Dairy Show, to be held in Columbus, Ohio, October 18 to 27, as follows: Monday, October 22; Tuesday, October 23; Wednesday, October 24 and Thursday, October 25.

The closing date for the cattle entries is Tuesday, September 25. Entries will be received up to this time at the office of the National Dairy Show, 8 East Long Street, Columbus, Ohio. On account of the great mass meeting of the dairy industry, called for Monday morning, October 22, at Columbus, the judging of cattle will not commence until the afternoon of Monday.

The schedule of judging, and the names of men who will pass upon the cattle, are as follows:

Jerseys.—2 P. M., Monday, October 22; H. H. Kildee, Judge.

Guernseys.—9 A. M., Tuesday, October 23; Robert Scoville, C. L. Hill, and W. A. McKerrow, Judges.

Holstein-Freisian.—9 A. M., Wednesday, October 24; W. T. Moserip, Judge.

Ayrshires.—2 P. M., Thursday, October 25; Will Forbes, Judge.

Brown Swiss.—2 P. M., Thursday, October 25; H. G. VanPelt, Judge.

ASSISTANTS IN DEPARTMENT OF AGRICULTURE

A number of leading agricultural men have been called to the U. S. Department of Agriculture as assistants during the war. Mr. Clarence Ousley, Director of Agricultural Extension, of Texas, is made an assistant Secretary of Agriculture, and will direct the publication and informational activities of the Department. Dr. Raymond A. Pearson, President of the Iowa State College of Agriculture, is also made assistant Secretary of Agriculture, and will assist in keeping the Department in touch with state committees and state agencies. Dr. B. T. Galloway serves as assistant to the Secretary and will act as the representative of the Department on the Interdepartmental Committee of the Council of National Defense. Prof. William D. Hurd, Director of Extension Service of Massachusetts, is temporary assistant in the Department co-operating with the states in connection with production, conservation and marketing of food products. Prof. Herbert W. Mumford is associated with the Bureau of Markets as consulting specialist in livestock marketing. Prof. Wm. F. Gephart, of Washington University, and Prof. Charles S. Potts, of the University of Texas, are associated with the Bureau of Markets, working on distribution of food products.

WINTER COURSES AT NEW BRUNSWICK

The short courses in agriculture at the New Jersey College of Agriculture in Rutgers College open this year on November 19 and close on February [illegible] There are five courses of study offered: 1. General agriculture and dairy farming. 2. Fruit growing and market gardening. 3. Poultry husbandry. 4. Home economics. 5. Bee husbandry. Catalog and full particular can be secured by addressing Prof. F. C. Minkler, Rutgers College, New Brunswick, N. J.

SHORT COURSES IN AGRICULTURE

Winter courses in agriculture are offered in the New York State College of Agriculture at Ithaca, beginning November 7 and running to February 15, a full 12-weeks' course the last week of which includes the annual farmers' week at the college. The college points out this year that the winter courses should especially appeal to many young men who realize the importance of improved methods.

The Courses Offered.—As in former years, the college announces a course in general agriculture, offering choice of work in all departments which is taken for the most part by those attending the winter session for the first time. In addition there are special courses in dairy industry, poultry husbandry, fruit growing, flower growing, vegetable gardening, and home economics. A complete announcement may be obtained from the secretary of the College of Agriculture, Ithaca, N. Y.

For complete working plans, specifications and bill of materials for this Chicken House and thirteen other farm buildings, send coupon below.

The Farmer's Wood

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Agriculture and the Future Farmer

A Few Considerations for the Farm Boy in Choosing a Profession

By A. D. RADEBAUGH
HARFORD CO., MD.

Agriculture has been defined as the parent of all industries. It is from the cultivator of the soil that the mechanic, the manufacturer and the man of commerce draw their supplies. The farmer's granary is the storehouse from which all households receive their daily food; from his flocks and fields are wrought the fabrics which clothe the human race; and upon his domains are laid the foundations which support the pillars of government, and upon which are erected the institutions which encourage the arts and the sciences, and render the charities of life effective for improving, beautifying, and benefiting the whole world.

Dr. G. F. Warren, Professor of Farm Management, New York State College of Agriculture, places the requirements of a successful farmer as follows:

"The ability to make a full and comfortable living from the land; to rear a family carefully and well; to be of good service to the community; to leave the farm more productive than it was when he took it."

Statistics show that in 1900, 50 percent of our population resided in the country, and 50 percent in the cities. In 1910, 33 percent of our population which had increased by 44 percent, were residing in our cities and only 11 percent in the country. What are the reasons for this? Are they just ones? No.

The man a thinking being is defined,
Few use the grand prerogative of mind.
How few think justly of the thinking few,
How many never think, who think they do.

In Tompkins County, New York, in 1907 the average labor income made by 615 farmers was $423. About one-third of the farmers made less than $200; about one-third made $200 to $400, and one-third made over $400. Or, one-third failed to make hired-man's wages, one-third made wages, and one-third made more than wages.

The house rent and farm products used in the houses in this region probably average about $300, so that these farmers average about as much as a $700 salary in the city. They can save more than they could on this amount in a city, because they go without many things they would be tempted to buy in the city.

Some of the farmers made much less than hired men receive; some received nothing for their year's work and lost money besides. Others made very good profits. Nine percent of the farmers in this county made labor incomes of over $1,000, and one percent made over $2,000. This is a general farming region that is about as prosperous as most communities of the North Atlantic States.

In northern Livingston County the average labor income on 578 farms in 1909 was $666. This is one of the most prosperous regions in the United States. This labor income added to the value of house rent and farm products would probably be equal to about a $1,000-salary in a city. Again, some of the farmers worked for nothing, while others did well. One hundred and fifty-three, or 26 percent, of the farmers made over $1,000 and 34, or 6 percent, made over $2,000. The highest was $7,780.

BEEF HERD AND BARNS ON HENRY PALMER FARM, CHESTER COUNTY, PA.

Jefferson County, New York, is a dairy region. Very little is sold except milk and hay. The average labor income of 670 farms in this county in 1910 was $609. One hundred and forty-five, or 22 percent, of the farmers made over $1,000, and 17, or 3 percent, made over $2,000. The highest was $4,222.

When one considers these statistics and sees what a large percentage of our farmers are doing, is it any wonder that our cities are increasing in population? These farmers who are losing money or who are working for nothing, in nearly every case are farmers who never read or take any interest in our agricultural schools or experiment stations. In other words, they are remaining still, which means "going backward". It is these farmers who discourage our young people.

One of the most important decisions in the life of every person is the choice of an occupation. One should carefully consider the advice of his parents and friends, but the final decision must be made by each individual for himself. It is not at all necessary that every boy follow his father's occupation. What distinguishes America from the old world is the mobility of its society. Every boy may do what he likes. He is not held by tradition. We must strive to maintain this freedom for all time. It is just as important as a free government.

Each person should choose the occupation in which he will be of most use in the world. Even from the selfish standpoint, this is usually best. The ultimate rewards in money and in pleasure are usually largest when one is doing the work that he can best do. The farm boy has had a good apprenticeship that would require several years to acquire. The high salaries paid in cities are misleading. They sound much larger than they really are when the cost of living is considered.

Some months ago a letter was published in the Atlanta (Ga.) Constitution by a country boy, living in Atlanta. He related that he had been led to the city by some old historic lures. The country had seemed monotonous. Drudgery had seemed constant. Isolation was painful. He longed for the constant elbow touch of his fellows. He longed for "movies" and brightly-lighted streets and all the paraphernalia of city life. He moved to town in the belief that fortune was just around the block. His disillusionment was painful and almost immediate. People in town had their own affairs and were not in the least concerned about him. His isolation was worse than in the country, for there can be no isolation worse than that of a crowd. Monotony was constant, for all he had to do was to describe a treadmill from his room to his shop. He made a little more money but it cost him all that to live. What he had mistaken for glitter was bogus. The church sociables he had thought tame, the neighborhood gatherings he had avoided he would now have welcomed.

A man who has dealt much with boys and been wonderfully successful in leading them into the right kind of manhood says that "the lonely job" is one of his best agencies. He refers to the task in the field, the barn, the shop, or the engine room, where a boy is sometimes alone for hours at a time, with opportunity to think as he works. This man does not hold human fellowship lightly, for he knows well the value of companionship, the inspiration of friendly conferences and discussions, and the power of team work. But he also knows that it is well for every person to have an occasional hour or two alone, and that it is especially good for the normal growing boy.

It is not an accident that the great leaders of history have been men who were much alone in boyhood. Our own Washington and Lincoln laid the foundations of their greatness in lonely days and years spent in the wilderness. It is nothing to marvel at that remote farms have furnished many, perhaps most, of the men who have won greatness in the cities. Do not despise the lonely job. It is normal to desire the society of our fellows, but there are better things than being sociable all the time.

If one is sure that he prefers some other occupation and that he has a fair chance for success in it, he should certainly not be a farmer. But, in many instances, the dislike of farming is merely a "case of the blues". Periods of discouragement come to every one regardless of his occupation; a change of occupation will not prevent them. There is no occupation that looks good when one is considering all its disadvantages. Unfortunately, human nature is such that we are likely to see the bright side of the other man's work and the dull side of ours. If one is to suceed in any occupation, he must learn to work when he had rather not, and to keep at it even if he is tired. Farming is not an easy task, but it is worth while. It is worthy of a man. It combines physical labor with thought, so that it calls for an all-around development.

If one is to be a farmer, he should prepare for the business. An agricultural college education is desirable today. But a young man is preparing not only for today, but for forty years from now, when such an education will be much more necessary. The college course will help during every one of these forty years. We rarely see a man who regrets having gone to school too long. Nearly every one regrets having stopped so soon. Lack of money need not discourage any one. Any boy who has good health can work his way thru an agricultural college, and there are ways of starting farming with little money.

Good roads, rural phones, rural free delivery, various farmers' organizations, agricultural experiment stations, agricultural colleges and county demonstrators and the numerous conveniences for the country home make life easier, safer, abolish monotony, kill isolation, and therefore place the country more than ever on a par with the city. Increasing population and therefore increasing prices of farm products, together with increasing wages, make farming an attractive and safe occupation for our young men. It is worth while to study the following poem by Whitney Montgomery, entitled:

My Choice

I know not what I might have found
Beyond this little spot of ground
Where I have spent life's daily round.

I might have touched the hem of fame,
Or garnered wealth, and just the same
I might have found disgrace and shame.

I only know that I have trod
A pathway close to nature's God,
Along a flower-covered sod.

And could my youth come back to me,
My choice for life again would be
My little farm and liberty.

THE COST OF GROWING WHEAT

An Analysis of Present Production Costs

FRANCIS H. WILLIAMSON

DELAWARE COUNTY, PA.

When the question of an equable price for wheat was first taken up by the government the thought ran thru my mind that if the government was so interested in having more wheat produced the best thing it could do would be to set a price high enough to attract more farmers to planting more wheat. When wheat first began to sell at $1 to $1.15 per bushel it was felt that the growing of wheat might well be considered from a financial point of view. Previous to the $1 wheat it was merely a crop to get straw and make a favorable seed bed for our most essential crop of clover (that great soil builder). Now that the government has issued a proclamation that wheat for 1918 would be $2 per bushel, it behooves each and every farmer to find out how much net gain he receives from his investment.

Some weeks ago an editorial appeared in the Pennsylvania Farmer showing a net profit of 50 cents per acre in the production of wheat; by no means enough to attract any sane farmer into the growing of wheat. These figures were based upon conditions covering the whole United States, and the charges and costs of various items were averaged. In a recent survey of Chester County, ten good, business-like, energetic and prosperous farmers made an average cost of producing an acre of wheat $41.62 with an average yield of 26.6 bushels per acre for 1917. Therefore, a bushel of wheat cost $1.91. One man went so far as to say that if it were not for the litter he derived and the clover-bed resulting from wheat seeding, he would not sow a grain of wheat.

Mr. Hoover now assures the dairy farmer that bran and middlings will be made as cheap as it is possible to be milled and that flour must bear the overhead charges. While I am to some extent a dairyman, yet I am also a consumer, and it seems to me that the result of such a procedure would be to lessen the price of wheat to the farmer and yet keep the price of flour where it is, and the question of cheap dairy feed is by no means the only item that enters into milk production. Personally, I feel that the farmer has always been patriotic, if trying to make a living with the other fellow setting the price is patriotism, and I for one would like to see the world realize that the farmer must be taken care of and not driven to the wall with the cry of "Raise more stuff" with the natural result of "take less for it".

Now if we are to raise more wheat, why not give us a living price for it? Five years ago a dollar bill would buy one-quarter of a pair of shoes, one-half of a hat, 80 pounds of bran, 1½ bushels of oats, hire a man for 7½ hours, buy 4 pairs of socks or 50 pounds of sugar, and so on. Today, a dollar bill will buy one-eighth of a pair of shoes, one-quarter of a hat, 60 pounds of bran, 1¼ bushels of oats, hire a man for 3 hours, buy 5 pairs of socks or 10 pounds of sugar. The point I want to make is this, that we as producers were better off five years ago with $1 wheat and things as they were then than we will be in 1917 and 1918 with wheat at $2 and things as they are now, or as every indication says they will be in the future.

Another point I wish to raise is why should we farmers be satisfied with a profit of 10 percent for crop profit when other lines of business are entitled to larger profits. Why, the very binder we use carries with it two 40 percent profits before it reaches us. The steel manufacturer takes his profit and then after building the machine the harvester company takes another profit. Now if the harvester company refused to pay such and such a price for its material, but said "I will give you so much", the steelman doesn't have to do as we unorganized farmers have to do, sell his product for what he can get for it. He merely reduces the grade of material and we (the farmer as usual getting the bum end of it) get an inferior machine. On the other hand, after we have planted a crop we have no means of cheapening the products after it has been placed in the ground unless we do it to our own loss.

So, fellow farmers, let us be careful to consider well whether or not we will depart from our regular crop rotation to take up something that at first glance looks very promising but which after close inspection shows up not so well.

Accompanying is an itemized statement of what it cost us to produce wheat this year.

COST PER ACRE

Cleaning 20 acres land (3 men, 2 days @ $2.50 and 1 horse 1 day @ $1)		$ .80
Plowing, $4; disking (4 horses and man, 3 times over) $6		10.00
Boarding or dragging $.70; rolling, $.70		1.40
Hauling fertilizers		.70
Cleaning seed		.10
Drilling		1.50
Cutting (reaping and binding, including twine)		3.00
Shocking		.60
Hauling in sheaves to barn		2.50
Raking stubble, trimming, etc		.70
Threshing (man labor only) 8 men		1.25
Hauling fuel		1.00
Superintendence		.25
Total labor cost per acre		$23.80
Other Costs		
Seed, 2 bushels @ $1.35	$ 2.70	
Carbon bisulphide, 2 gallons @ $1.25 for 400 bushels	.05	
Fertilizer, 600 lbs. per acre 2-10 grade @ $22.35	6.70	
Share of manure, 10 tons per acre, allowing 20 percent	4.50	
Threshing charge, average 28 bushels, @ 8 cents	2.24	
Fuel for threshing, 1200 lbs. coal @ $5 ton, 400 bu. wheat	.21	
Use of land $5 per acre	5.00	
Use of machinery	.25	
Crop Insurance	.14	
Total miscellaneous costs	$ 21.79	$21.79
Total per acre cost		$45.59
Farm value of straw less cost of baling		7.00
Total net cost for grain		$38.59

Average yield of 28 bushels; cost per bushel, $1.378. The average yield for Delaware County for four years is 18 bushels per acre. Average cost per bushel on that yield would be $2.14.

Keep Seed Corn Safe

Seed corn may be left on the racks where the ears have been dried. But it is generally preferable, says the United States Department of Agriculture, to store the ears in mouse-proof barrels, boxes, or crates during the winter. In any case they must not be exposed to dampness or they will absorb moisture and be injured.

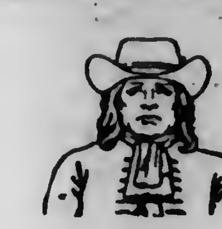
After hanging in the drying shed, or lying on the racks where there is constant circulation of dry air for the first two months after they have been selected from the stalks in the field, the seed ears should be bone dry and contain less than 10 percent of moisture. Some farmers place the thoroly dry ears in the center of a wheat bin, and then fill the bin with loose, dry wheat.

Destroy Weevils and Grain Moths

If signs of weevils or grain moths show, the corn should be inclosed with carbon bisulphid in a practically air-tight room, bin, box, or barrel for 48 hours. The liquid bisulphid should be placed in shallow dishes on top of the box or barrel holding 10 bushels or less. The fumes from the bisulphid are heavier than air and gradually fall to the bottom of the receptacle, permeating the whole mass. One pound of the carbon bisulphid is enough for a room or bin 10 feet in each dimension. After fumigation the ears must be thoroly aired, whereupon the unpleasant odor disappears. Great care should be used with carbon bisulphid; its fumes are quite as inflammable as those from gasoline.

To prevent the entrance of weevils and moths, the ears may be stored in comparatively air-tight boxes or barrels with one pound of moth balls or naphthalene for each bushel of corn, which is not injured. Ten pounds will protect enough seed to plant 60 acres.

The Secretary of Agriculture has announced the apportionment of $14,550,000 of Federal funds to be used in the fiscal year ending June 30, 1919, by the several states in the construction of rural post roads. Pennsylvania receives $690,145, New Jersey, $177,257, New York, $749,674 and Maryland $150,871. This is the third apportionment of funds under the act.



By the Way

By

Father Penn

"What will the terms of peace be like?" This is a question which thoughtful people are asking, and it is a perfectly proper concern. Long or short as the war may be, there will come a time when men will sit down and parley over the terms. While it is impossible for any nation to definitely say at this time just what the terms shall be as a whole, it is possible to announce such principles as seem just, and which will be fair and honorable for all concerned, when hostilities cease, and which will tend to most quickly heal the wounds inflicted by international war.

Aside from the questions which are purely diplomatic there will be others which will affect the future business relations of the countries at war and it is nothing more than just that the business of agriculture be considered when considering the terms. Whether it shall have intelligent consideration will depend largely upon the demands of farmers and the activity of their leaders.

Before the entrance of the United States into the war we heard a great deal about a trade war after the actual conflict ceased. By this was meant the making of such arrangements as would further punish the vanquished by debarring them, so far as possible, from the world's trade. Certain of the Allies have for generations controlled the commerce of the seas, and the purpose to maintain and extend that control has, by some, been declared. But the principles which underlie, and are included in, our declaration of war do not permit of any such agreement. On the other hand, it will be our privilege and possibly our duty to protest against "combinations in restraint of trade" in the world's markets. In addition to the larger principle of thus contending for a world democracy, we have the economic question of providing the largest possible market for our products, and agriculture furnishes a large part of these—an item of export which the rest of the allies do not consider since their's is chiefly of manufactured goods.

So far the expressions heard in this country, from those in authority as well as the heads of big business, would indicate that sanity and justice will prevail in the final settlement. James A. Farrell, president of the United States Steel Corporation, in a speech the other day said: "We shall greatly lessen the possibility of perpetuating in the domain of commerce the bitterness and hatred engendered by the war, if we refuse to be drawn into any convention, agreement or understanding that would make us parties to a boycott of the commerce of any of the nations now arrayed against each other." President Wilson has expressed himself in a similar way in his letter in answer to the Pope: "No peace can rest securely upon political or economic restrictions meant to benefit some nations and cripple or embarass others—upon vindictive action of any sort, or any kind of revenge or deliberate injury."

Since German leaders have inoculated the minds of the people with the idea that their enemies sought the political and economic ruin of the German people, and have thus maintained a remarkable loyalty and solidarity, such expression of sentiment as quoted above will doubtless go far to remove the fear of ruin which has pervaded the enemy mind. There is no doubt but that the United States will have a leading part in the settlement at the close, and in the future all nations will doubtless thank their lucky stars that this was the case.

Germany and Austria have been heavy buyers of agricultural products and the American farmer will be interested in such terms of settlement as will reopen these markets, when at the same time the best interests of humanity will also be served.

The use of strong arm methods, either politically or economically, must end with this war else it will have been fought in vain. In our own national life we have for the past generation been extending the political principle of equality and justice into the commercial and industrial fields, and it is to still further extend it into world relations that we are in this war. So far, we have escaped the calamity of being possessed by a spirit of personal hatred and animosity—a spirit in which it is impossible to do justice—and because of this we will no doubt have a great opportunity at the close to "establish justice, ... promote the general welfare, and secure the blessings of liberty. . . . ." thruout the world.

Stop! Look! Listen!

This familiar injunction, placed by the railroad company beside the crossing, carries an especial message for the motorist. It is more than a request by the railroad, more than a warning. It is a rule of the law which is binding upon all who drive. It is axiomatic that ignorance of the law excuses no man, so you are expected to understand the full meaning of the brief legend.

The first rule is to stop. Where, you ask, should you stop? Let us consider the case of Sam Johnson, who stopped at the wrong place, to his sorrow and loss. He was approaching a familiar crossing on a rainy day and stopped several hundred feet from the track to look and listen. Seeing and hearing nothing, he threw in his clutch and started across. An express, traveling at high speed, struck the car and threw it into the ditch.

When Mr. Johnson had gotten out of the doctor's care he started suit against the railroad company, insisting that it was responsible because it was running its train at unusual speed. But he failed to recover, and all because he had not stopped at the right place. The railroad's attorney brought out the fact that Mr. Johnson failed to stop, look and listen after his first stop, tho there were several other points closer to the crossing where he could have looked to greater advantage.

The general rule of law as stated by one court is that "the driver owes a positive duty to stop, look and listen at a time and place which will insure knowledge of any approaching train." So you can see that the law believes in safety first, and that the rules of the law in this instance are first-rate safety first measures. What that time and place are at which one is expected to stop, look and listen must necessarily depend upon the circumstances. You are expected to select the most favorable place at that particular crossing.

The motorist who speeds across a crossing without taking the trouble to stop, look and listen for an approaching train not only has no regard for safety first, but has failed to regard the law and cannot recover damages for any injuries he may suffer. The railroad train has the right of way at a crossing, and he who drives as well as he who walks must take care to avoid it.—Chandler Cooley in Milestones.

A 99% STAND, TWO STALKS TO THE HILL. A. D. RADEBAUGH FARM, MD.

Concrete for Machinery Foundations

Foundations for gas engines, cream separators and similar machinery may be best constructed of concrete. With long boards, practically any size of foundation may be built by simply setting the boards on edge to form an enclosure the shape of the engine bed and bracing them so that they will stay where placed while the concrete is being deposited in the form. If a foundation more than 1 foot high is wanted, the same scheme of forms may be used by placing one board on top of the other and holding them in position by stakes or cleats at convenient points. Cleats placed in the outside angle of the intersection of the boards and extending the full hight of the form will add strength and stiffness to the form.

Engines and other machines vibrate more or less and should be firmly bolted to the foundation. Before filling the form with concrete, a template should be made of light boards and holes bored in the template to correspond with the location of anchor bolt holes of the machine. The template is placed level on top of the form and the bolts suspended by means of temporary wooden washers. A plate or cast iron washer is first slipped down to the head of the bolt, and the threaded end passed thru its hole in the template and wooden washer and the nut is screwed on. To prevent cracking the concrete bed anchor bolts should be set at least 3 inches back from the faces of the foundation. Place the concrete in the form carefully so that the bolts will remain plumb. After the concrete has hardened, remove the template and carefully level the top of the foundation with cement mortar, using a mixture of 1 part of portland cement to 2 parts of sand. The edges may be left square or may be rounded or beveled before the concrete hardens.

The mixture for engine foundations should be in the proportion of 1 sack of portland cement, 2 cubic feet of coarse clean sand, and 4 cubic feet of well-graded pebbles or broken stone, mixed with enough water to make a quaky consistency.

Foundations made in this way are more durable and satisfactory in every way than ordinary wood floors. They give a rigidity to machinery which makes for smoothness and lessens noise. Engines and other heavy fast-running machines will be longer lived when placed upon a firm basis.

Electric Lighting Satisfactory

We installed a home electric lighting system in our house and barn over a year ago, and have found it satisfactory in every particular. As yet we are using it solely for lighting purposes altho the plant is large enough to run a one-half horsepower motor for pumping water, etc. The plant consists of a small motor and sixteen large batteries. Any child can start the motor which charges the batteries, and it stops automatically when they are fully charged. The manufacturer claims that the batteries will last about ten years and will cost $131 to replace. We paid $290 (less 6 percent for cash) for the plant: have 26 lights in the house and six at the barn. The cost of wiring and lamps was $106.10, the work being done by the day. Fixtures cost us $61, making a total of $454, including the freight charges. At the present time the cost of operating is about 8 cents per day for oil and gasoline, but much less thru the summer months. — Arthur P. Yeatman, Chester County, Pa.

Straight Answers to Timely Questions

What is Pratts Poultry Regulator?
A positive tonic and conditioner for poultry of all kinds and ages. *A health-builder and health-preserver.* Not a food.

What does it contain?
Roots, herbs, spices, mineral substances, etc. Each ingredient performs a certain duty. The combination spells "health insurance."

What does it do?
Pratts Poultry Regulator makes and keeps poultry healthy, vigorous and productive. It sharpens the appetite, improves digestion and circulation, hastens growth and increases egg-production. *It saves feed* by preventing waste due to poor digestion. *It prevents disease* by keeping the birds in condition to resist the common ailments.

Has it been fully tested?
Yes! In general use for nearly fifty years. The *original* poultry conditioner. Imitated, but unequalled.

Does it give general satisfaction?
Positively! *Satisfaction guaranteed or money refunded.* Test it at our risk. Increased egg-production will prove that "Pratts makes hens lay."

How is it best used?
Daily, in small quantities. For adults, a tablespoonful daily for 10 birds. Younger stock in proportion. Mix with dry or moist mash.

What does it cost?
Nothing, because *it pays big profits.* One cent a month per hen is the *investment* required.

Where can I get it?
From 60,000 Pratt dealers. There is one near you. Direct from the manufacturer, prepaid, if your dealer can't supply you.

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30x3½	$7.50	34x4½	$12.00
32x3½	$8.50	35x4½	$12.00
33x4	$10.50	36x4½	$13.00
34x4	$10.50	37x4½	$13.50

Send us your old worn tires. We will not only retread them but guarantee them at these little prices.

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32x3½	$7.00	35x4½	$9.00
33x4	$8.50	36x4½	$9.00
34x4	$8.50	37x4½	$10.00

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Poultry

WINTER PREPARATIONS

It is now time to get everything about the poultry yard in shape for winter. On most farms it will be possible to find many things to do before cold weather arrives if the fowls are to be made comfortable and, therefore, profitable provided they receive due attention in other respects at all times. At this time the quarters of the fowls generally require an overhauling and repairing. Such work can best be done now because in late fall and early winter the fowls cannot be driven out doors long enough for satisfactory cleaning of the quarters and the making of needed repairs.

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If the roof of the house leaks, it should be given attention now and put in good condition before the fall rains set in. A leaky roof is a source of danger during the close housing season. The floor and litter, as well as the nesting material, will soon become wet and filthy so that the hens cannot be kept healthy and productive. The windows of the building may also need attention at this time. Some of the panes of glass may have been broken and need replacing; others may simply be loose and need to be reputtied. Sagging doors should be strengthened, broken hinges should be replaced and there may be loose boards about the walls of the building which should be nailed fast.

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If the floor is of natural earth, it will be advisable to remove several inches of the surface soil and replace it with fresh earth. A concrete floor in the poultry house is perhaps better than any other, except that it is somewhat cold in winter. A board floor soon becomes saturated with the fluids of the droppings. The plank floor also encourages rats to burrow beneath the building and they may prove very destructive to young stock during the spring and summer. The fowls can be kept from coming in direct contact with the concrete floor in winter by keeping it covered with a thin layer, say one or two inches, of dry dirt. Over the layer of dirt spread a litter of leaves or cut straw. This floor covering will need to be renewed at intervals thruout the winter, or whenever it becomes soiled badly, hence a supply of dry dirt and leaves or straw should be obtained in the fall and stored in a dry place. The work of cleaning the floor is no greater, if as great, when litter is used freely on the floor than when the floor is left bare. The litter will absorb all the liquid matter as well as prevent the droppings from adhering to the floor.

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The interior of the house should be thoroly cleaned and disinfected before bad weather arrives, in order that the hens may not be annoyed by insect pests during the winter. Poultry have numerous insect enemies, but there are only four or five sorts that are common, and the red hen mite is worse than all the others combined. The red mite is the pest that infests the cracks and crevices, like bedbugs, in the poultry house, coming forth at night, or as soon as aroused by the fowls going on the perches, to prey upon its victims until morning when it seeks it old quarters. Red mites seldom cling to the fowls during the day, altho more or less will be found on the fat, sick, lazy or old birds. The more active members of the flock keep the pests shaken or dusted off during the daytime. One of these mites can gather only a very small drop of blood each day, but when several hundred of them infest each fowl at night the drain on the systems of the birds is incalculable. It is impossible for hens so infested to eat enough food to make new blood to replace that which is drained by the mites and at the same time produce even a small number of eggs. Mites do not multiply very rapidly in cold weather. By waging a vigorous warfare against them now the few that escape will hardly increase in numbers sufficiently to annoy the fowls to a serious extent. Feed of all kinds is going to be too valuable this winter to feed to any unnecessary lice and mites.

First, sweep out the entire interior of the house, going over the walls and floor carefully. Use a stiff broom that will brush out every particle of dirt from the cracks and crevices. The nest boxes must be cleaned out thoroly and all the old nesting material burned or otherwise destroyed. Take the roost poles outside, wipe them with a rag dipped in kerosene, apply a lighted match and let the fire run over every part. It can be extinguished whenever necessary. After the building has been thoroly cleaned in this way the interior walls should be sprayed with one of the standard coal tar stock dips which has been diluted with water. Another spray mixture which is popular and which does effective work is made of one pint crude carbolic acid to eight pints of kerosene. Whatever the preparation used, spray it into every crack and crevice in the house, giving nest boxes special attention. The liquid may be applied with a large brush, but a good spray pump is quicker and more efficient than any brush. Early in the morning is the best time to do such work in order that the air may become purified before roosting time at night.

Either of the above mentioned mixtures will kill every mite with which the liquid comes in contact, but it is almost impossible to get all of them at one spraying. Then, too, it is not likely that the liquid will reach the eggs and prevent them from hatching. The building should, therefore, be sprayed twice again at intervals of seven to ten days, so that any mites which have hatched out from eggs deposited previous to the first spraying will be caught before they have had time to lay eggs themselves.

Lice, unlike mites, spend nearly all of their time upon the fowls. They can easily be seen. While too many lice irritate a hen, they do not sap her vitality nearly so much as when she is attacked by blood-sucking mites every time she goes to roost or gets on a nest to lay. Body lice are not bloodsuckers, but live on the scurf of the skin and feathers of the fowls. These lice are partially controlled by each hen if she be provided with a good dust bath. Common road dust may be used for the dust wallow, also sifted coal ashes. Wood ashes should never be used, for if they become damp a lye is formed which will attack the flesh of the fowls as well as bleach out the feathers. If the fowls are very lousy it probably will be necessary, in order to exterminate the lice completely, to apply a good insect powder to each hen. The proper way to dust a fowl is to hold it by the legs, head down, and with the free hand work the powder well into the feathers down to the skin. This operation should be repeated at least twice. When there are lice present on a bird there are always unhatched eggs (nits) present too, hence a second application is necessary in order to catch these when they hatch.

In fighting insect vermin of all kinds absolute cleanliness about the buildings and yards is imperative. The buildings must be kept free from filth, dampness, dust and dirt. Filth and dirt will not create insect pests spontaneously, but the parasites increase at an alarming rate under filthy conditions.—Wm. F. Purdue.

USING OLD EQUIPMENT EFFICIENTLY

The manager of a large commercial poultry farm using long brooder houses equipped with the well-known systems of small hovers heated by hot water pipes is adopting the coal burning colony brooder stoves for use in the colony coops so the chicks can be removed to the colony houses while quite young.

The practice is to start the chicks in the big brooder houses and keep them there while they need close and careful attention, usually for the first four weeks. After that they are transferred to the colony houses equipped with brooder stoves where they remain until full grown. The stoves are kept running until the chicks are from eight to twelve weeks old, according to weather conditions and the season of the year. This plan makes the caring for the chicks during the critical first few weeks easy and allows the owners to have the brooder house for a new flock every four weeks instead of having the original brood occupy the brood-quarters until they could be transferred to the heatless colony coops.

Then, too, after the chicks are eight weeks old they need greater freedom than the average brooder house affords, but they cannot be transferred to cold colony coops until older on account of the need of some heat. The plan outlined overcomes all this.

Of course, the chicks could be started in the colony coops with the brooder stoves, but the attention necessary during the first few weeks of the chick's life would make the number of trips too great where any number of coops was had. The farm I mention has some 200 colony coops. Then, too, it is necessary where thousands of dollars are invested in hot water systems that the original brooding equipment be made use of and this plan has accomplished that with very satisfactory results.

The manager of this large farm told me that when colony brooders first came out he, like many others, was inclined to consider the old brooding systems as so much junk, but since working out the plan given he has come to the conclusion that there is still a use for the continuous systems of hovers. The economical use of such systems acts as a nursery during the critical first few weeks of the chick's life, keeping the young chicks in small flocks where they can be closely watched and given the best of care with the smallest possible labor expense.—J. Raymond Kessler, Chester Co., Pa.

NEW JERSEY'S POULTRY SHORT COURSE

The State Agricultural College at Rutgers College, N. J., will hold the usual Short Courses during the coming winter. The courses will begin on November 19 and end on February 20, 1918. The usual staff of competent instructors and assistants will be on hand to take charge of the instructional work.

The course in poultry husbandry as offered in conjunction with the short courses gives the necessary training for success with chickens. Due to the abnormal conditions in the food supply and the fact that the poultry course is well-outlined and well-taught, a large enrollment is looked for this year.

The course includes series of lectures on the following topics: Types and Breeds of Poultry, Poultry Breeding, Exhibition Scoring and Judging, Preparation and Marketing of Poultry, Location, Design and Construction of Buildings, Sanitation, Parasites and Diseases, Incubation and Brooding, Poultry Farm Management, Principles and Practice of Poultry Breeding, Turkeys, Ducks, Pigeons, Geese, and Game Fowls, Animal Husbandry, Practical Fruit Growing, Soil Fertility, Agronomy, Vegetable Gardening, Wood and Forge Work. In addition, each student is required to take care of a pen of birds, doing all the chore work, such as feeding, watering, cleaning houses, collecting eggs. In addition, he is required to keep a careful account of eggs laid, feed consumed, and must submit a financial report of his flock each week. Trips of inspection are made to the large poultry farms thruout the state.

The expenses are medium. Room and board may be found within a short distance from the Short Course Building. The social activities of the Short Course students constitute an enjoyable feature of the thirteen weeks' work. In all, a more profitable period of time, from the standpoint of knowledge gained, could hardly be spent.

For further details and full information, address Short Courses in Agriculture, New Brunswick, N. J.

MAKING HENS PAY

With great interest I read your article, "Does the Farm Hen Pay." I would answer, the average farm hen does not pay. Why? Because nobody cares for the chickens. If somebody feeds them, it is all right. If nobody feeds them, it is all right anyway. Farmers around here never feed wheat, or dry mash, or oyster shells. They throw a few ears of corn into the hen house, and the feeding is done. The chicken house is cleaned once a year, and the children gather the eggs—or not. With a little care and proper feeding you can make the hens pay and return a nice income. In order to find out if I make money, I keep a strict account and I am anxious at the end of each month to add up expense and income and see how much I have made. I feed strictly by measure. I sell to private customers by parcel post and obtain better prices than local dealers pay. People lose money by not taking proper care of the hens.—Marie Meyjes, Suffolk Co., N. Y.

WIND-BREAK FOR POULTRY

If the poultry yards or runs have no higher ground to the north and west of them, or are not south of farm buildings, a windbreak of some sort should be provided. Hens can stand a still-cold much better than they can cold winds.

If no natural wind-break can be utilized, a tight board fence running east and west will do very well. It is surprising what a difference in temperature there is between the north and south sides of a board fence. Several years ago, when the temperature was near zero, I found the air on the north side of a board fence just eight degrees colder than the air on the south side.—T. Z. Richey.

There is a very great difference between really good beef scrap and what is labeled as such but which is in reality fertilizer. A beef scrap fit to feed to your fowls should be so good that when boiled with a little water it will not smell bad. In fact, it ought to be fit to eat. Feeding meat scrap containing magots is a sure way to poison the hens.—J. R. K.

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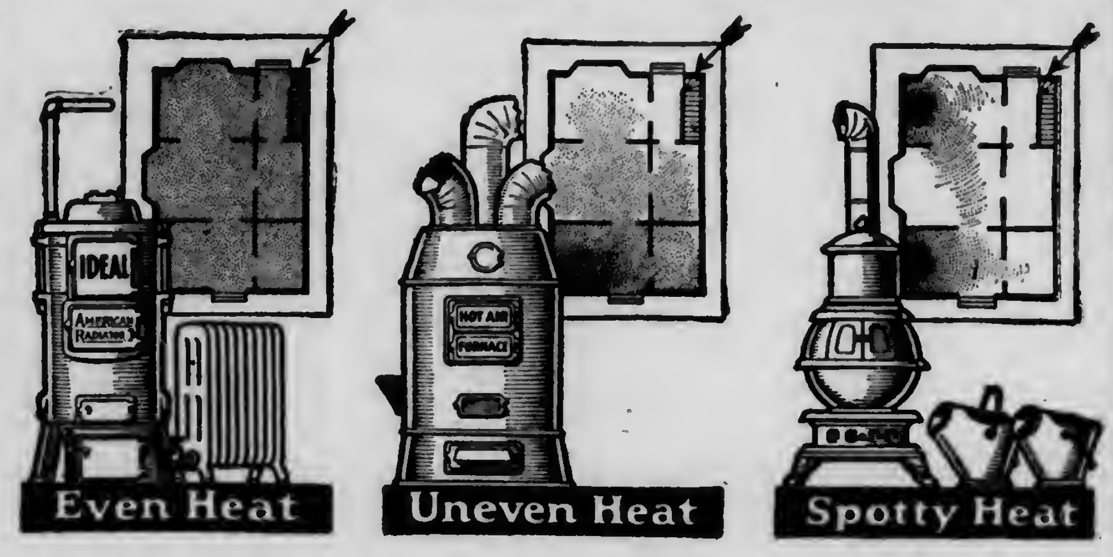

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PHILADELPHIA, PA., OCTOBER 6, 1917.

OUR NEW SERIAL STORY

With this issue we start a new serial story, Nan of Music Mountain. This is a story of out-door life in the West when the country was in the making. It is full of action that stirs the blood even in these more sophisticated days. And it develops a love plot that is certain to please as it entertains. You will want to get acquainted with Henry de Spain in the first chapters. You will be ready to fight for him and with him as you follow him thru the trials of suppressing lawlessness in his country. You will like Nan when you learn to know her; not before. These two young people will provide you with many anxious situations and many pleasing surprises before the story is completed. Do not miss the early chapters.

* * *

HOME FOODS SAFE

With all of the conjectures as to what the government may, can or might do, it is not surprising that some absurd rumors should be afloat. One of the most absurd of these is to the effect that the government expects to take from every family all canned goods put up in excess of 100 quarts. This same story appears to have circulated, with variations, in all parts of the country. In one place it was circulated that the government was urging farmers to put up as much food as possible in order that these products might be in the most available form for shipping abroad when wanted. The reports had become so wide-spread that both the Food Administration and the Federal Department of Agriculture have found it necessary to issue statements denying the reports. The government has no intention of seizing any part of the goods put up at home and will not do so. The propaganda encouraging home canning has been for the one purpose of putting into the hands of those who did home canning and preserving a supply of cheap and valuable food for the winter; also to insure the greater utilization of all products grown—a matter that the American people have been none too careful of in the past.

* * *

SOLDIERS' READING

The war is bringing many calls for all of us to serve in little as well as big things. None carry the universal appeal of those that minister directly to the comfort and welfare of the men in the field. All things can be met in the name of duty; some present themselves in the form of privilege. Among the latter is the appeal put out last week for a fund to supply ample and suitable reading matter for the boys in service. Guided by the experience of our allies, our War Department has asked the American Library Association to supply our thirty-two cantonments and various smaller posts and assembling camps, as well as our boys in France, with suitable reading matter.

The Association has its plans already made. Each large cantonment is to have a library building and traveling libraries will be sent out to division reading rooms. Many books, mostly fiction, have already been donated. But a fund of $1,000,000 is required to purchase more books, including reference and technical books, which people do not often think to donate. Many of the boys are given instruction in certain lines of study or practice which will fit them for useful trades and professions when the war is over. These men want books for study as well as amusement and pastime. The Library Association is organized to meet the greatest needs, and donations made will go to supply just what is wanted.

An abundant supply of reading matter of the right sort is no small item in the comfort of the men in camp. A British officer recently wrote: "Men in the trenches gathered around like hungry wolves when a library box arrived on our front. Because there were not enough books to go around, the fortunate ones were forced to read aloud to the others." Good reading, and plenty of it, means better spirits, better health, more efficiency and a better morale. And you can help in providing these things. Your local librarian will receive and forward your subscription. Or, you can send your money directly to the "Soldiers' Library Fund", American Security and Trust Company, Washington, D. C.

* * *

FARMERS AND THE WHEAT MARKET

It appears that papers in some parts of the country have the impression that farmers are compelled to sell their wheat at the price lately set by the government and they who hold their wheat, or who asked more than $2.20, were liable to have the rigors of the law visited upon them.

It seems hardly necessary to state that farmers may sell their wheat for as high a price as they are offered or as low as they feel inclined. The $2.20 is merely an assured price. The government will take the wheat upon the basis named and pay for it according to the grade and the locality in which it is produced and offered. Our readers will find a partial list of the wheat-buying zones on page 12 of last week's issue of Pennsylvania Farmer.

Even tho farmers have the privilege of holding their wheat as long as they like, and of asking any price they choose, it is doubtful whether there will be much gained by holding it. The government has prohibited buying and holding by speculators; the mills are not allowed to purchase stocks to last more than 30 days, hence the demand for wheat will be only the steady and regular needs of the market. Competitive bidding is not likely to be keen since the price named is about as high as is consistent with what the public is willing to pay for bread. While the government has shown no disposition as yet to commandeer wheat, it has that power and the public would probably demand its exercise should the price of wheat show a tendency to go to the figure reached last spring.

Taking into account losses, risk and interest it is very doubtful whether it will pay to hold for higher prices.

* * *

FARMERS AND THE DRAFT

Last week the Federal Board of Farm Organizations, representing some two million farmers, met President Wilson and discussed exemption of farm labor from the military draft. The Board presented a memorial from which the following points are condensed:

1. Agriculture is the only great industry now undermanned as compared with standards before the war. Many industries want more help; agriculture has less.

2. Shortage of labor is cutting down production on the farms. Other industries are offering higher wages than the farmer can pay and still produce food at reasonable rates.

3. Trained farm labor cannot be replaced by untrained men or boys. The necessity of taking the farm hand into the family circle still further restricts availability of strangers.

4. Returns to the farmer are far below those to men of equal skill in other occupations, and special risks from weather, insects and diseases are far greater than theirs. Therefore men who leave the farm seldom return.

5. Figures show that in June, 1917, there were 16,000 less farm hands on the farms of New York State than in June, 1916. On March 1, 1917, the farm labor supply in the United States was 15 percent below normal, meaning that one in every seven farm laborers has been taken away.

Upon this statement of fact the Board makes an appeal summarized as follows: We do not approve of class exemptions but the chief purpose of selective draft is to keep those industries most essential manned to the point of highest efficiency. The present method of executing the law will result in reducing productive power of our farms just at a time when production is most needed. Mere exemption of skilled farmers is not enough. They should be required to remain in productive labor on the farm during the period for which their exemption is necessary. We seek a more perfect administration of the purpose of the act to protect the essential occupations. We ask that farm laborers and farm owners be kept placed where they can serve the Nation best. The situation demands prompt and effective action.

It is scarcely necessary to comment on the statements in this memorial. We have already presented letters from our readers giving the same facts. The memorial is a vigorous and most timely appeal apparently reflecting the sentiments of the farmers of all sections of the country. It is certainly truly representative of farm conditions in the East. Scarcity of labor is the great limiting factor in farm production, and any further drain on the limited supply is certain to result in decreased production next year.

* * *

NATIONAL FARMERS' ORGANIZATION

We have frequently commented on the need of a strong representative national organization for farmers. At last there has been formed the Federal Board of Farm Organizations. This Board is a federation of national farm organizations, such as the National Grange, the Farmers' Union, the Farmers' Congress, etc., and is estimated to represent more than two million farmers. Its purpose is to give the farmers a voice in national affairs. It proposes to do for farmers what the American Federation of Labor does for labor and what the National Chamber of Congress does for the organized business interests. The Board will not originate any line of appeal or protest in itself, but will take up these lines only when all of the national farm organizations are unanimous in their stand on any one question.

For this purpose and on this plan the Board has opened offices at Washington, and stands ready to serve the farmers. Already it has done two valuable pieces of work. When the Food Administration decided to appoint a price-fixing committee to determine the price of wheat for this year, The Federal Board of Farm Organizations went to Mr. Hoover and made an appeal to have a fair representation of actual farmers on that committee, with the result that three farmers were thus appointed. Again, last week the Board appeared before the President and made an appeal for exemption of farm labor from the draft. (See comment elsewhere on this page.)

This national organization for representation of farmers has been a long time coming and it ought to have the united support of the farmers. It should make the existing organizations more effective and add to their influence and numerical strength. And it should give farmers representation where most needed. There has been more money spent for farmers in the past few years than for any other class of citizens. This money has been spent whether the farmers wanted it or not. And it has all been for the one purpose of increasing production of farm crops. The farmer has been considered primarily as a machine for producing more food. He has not been considered as a citizen or as a man of the home, largely because he was not there and did not have representation there to make his needs and his problems clear to the law-making body.

The farmers in this country are not so much unorganized as they are organized piece-meal. They have thousands of organizations, local and sectional, but they have had no central or centralizing organization to speak for them as a class. The steel men, the bankers, the transportation men, the manufacturers each have separate organizations in each class of trade or industry. But when they come to national legislation, they get what they want because one organization speaks for all branches of a single class. The laboring men have their various organizations, but when it comes to a national question, The American Federation of Labor speaks for all of them. And there is not a class of citizens that has had as much influence in Washington of late as the laboring men.

The farmers have never been in position to get what they wanted at the time they wanted it because they have never before had a chance to speak as a unit. The new Federal Board now gives them that opportunity. It remains to be seen to what extent the federated bodies, and thru them, the farmers, will make use of the opportunity.

HARRISBURG NOTES

State and Co-operation. — The abstract of the report of the State Milk Commission which investigated the milk situation in the territory of Pennsylvania, Ohio and West Virginia supplying Greater Pittsburgh contains the interesting announcement that the commission will endeavor to "bring the two active agencies together so that a fair price may be established for the consumer." The commission also investigated the conditions in the vicinity of Philadelphia last winter and presented a report so filled with interesting matter that it was too long to be of much use to the public. For the last three years the public has been hearing much about state aid for co-operation. The chief trouble appears to be that about the time the state authorities get fairly started on anything there is an outbreak of factional politics on Capitol Hill. It will be worth while to observe the manner in which the commission starts to work on the bringing of the producers and consumers together in the Pittsburgh district. There is a fertile field and the men connected with the commission are exceptionally well equipped with knowledge about the business. How far they will be allowed to go is interesting people here. The report on the Pittsburgh situation says, among other things, that the average farmer is at a disadvantage compared with the farmers who are organized for best dairying and that co-operation gets results. The average cost of production in the Pittsburgh district is given as 7.45 cents a quart, freight paid by producer, and one distributing firm showed a cost of 5.97 cents a quart for distribution in the city. The commission says New York handling costs are 6.5 cents and Philadelphia 3.9. The reports on the Philadelphia and Pittsburgh milk situations cover over half the state and should form the basis for some important effort in the future, when conditions are normal. For the first time the power of the state has been invoked to get facts and figures on the milk situation, altho it is only fair to say that books were produced willingly. The opinion is general among those familiar with the report that the distributor should be brought into the co-operative scheme and asked to help.

The Agricultural Commission.—Failure of the State Commission of Agriculture to meet here a few days ago after a meeting had been formally called and announcement made in the newspapers has revived talk that it is only a question of time until some of the members of the commission retire or are asked to do so. The commission has had only a few meetings in the last nine months and has failed to assert itself in getting its ideas adopted. There have been rumors that the commissioners were about to call upon the governor for support for projects which they had outlined and which it is common report had executive approval and also that the differences existing would be harmonized, but sincere friends of "agricultural advancement" here have not seen any signs of a show down on either hand.

Loss in Produce. — Reports coming from Luzerne and other counties to the effect that unless hands are procured there will be loss of vegetables and food stuffs really tell of conditions existing in many parts of the state. The operation of the railroads and industries at top notch, the higher wages in cities and the military demands have brought about a condition which is reported as deplorable in some counties. The suggestion has been made that children be given days off from school to help in fields and that farmers and growers induce their customers to help out in the brief period of gathering. It is to be noted that not a few of the "war gardens" in the cities have gone to rack because of lack of care or inability of those who started them.

Draft Uncertainties.—The fact that no general policy has been announced by the federal authorities on exemption of farmers from the draft or extension of time has led a number of local boards to hope for a lenient attitude in regard to men needed in fields. Pending action on appeals it has been suggested that men be allowed to continue work on farms. The administration of the draft system is more or less trying and only last week some instances of conflicting rulings in regard to aliens gave more or less annoyance.

Care in Live Stock. — State Live Stock Board officials are again urging farmers to be careful in buying live stock that is offered at public sales without precautions being taken. State officials say it is easy to find out where stock comes from and whether it is free from disease if people take the trouble. Asking questions and getting facts prevent hog cholera.—Hamilton, Harrisburg, Oct. 1.

NEW YORK NOTES

Saloons Go Out of Business.—The passing of the manufacture of whiskey, consequent on the new federal law, will force one-third of New York City's saloons out of business on October first, according to the president of the New York Liquor Dealers' Association. There remains in the warehouses of the United States over 225,000,000 gallons of rye and bourbon whiskies, a supply that may last the retailers from one to three years. Prices at retail have already gone up and consumption has accordingly fallen off. The action of the federal government in prohibiting the distillation of liquors receives approval from all sources.

Potatoes Prices. — The potato market remains unsettled. Loading has been under way in some localities at 85 cents to $1 per bushel, while the city markets have paid as high as $1.50. The prevailing price seems to be $1.10 to $1.35. The Lehigh Valley demonstration car speakers, including the president of the State Potato Growers' Association and experts from the State College, are advising the farmers to store their potatoes. High prices of seed, fertilizers and labor have cost farmers more per bushel than present prices are bringing them, or from $90 to $125 per acre. The high yielding fields only will permit of selling on the present market; while the average crop is under normal in the state, because of blight and rot. State potato experts report that the Maine crop will be only 40 to 50 percent yield, because of blight, while Wisconsin and many other sections have suffered from early frosts. Army contract prices at present are $1.50 a bushel and farmers are advised not to sell for less.

Ithaca Milk Prices Advanced. — The Tompkins County Milk Producers' Association has raised the price of milk wholesale from 5½ to 7 cents a quart. The dealers will raise the retail price two cents above the 10 cents per quart now prevailing. Coffee cream at 50 cents and whipping cream at 80 cents will take a proportionate advance. Auburn, Syracuse and Rochester milk associations have taken similar action.

Holstein Sale. — The Liverpool (N. Y.) Sale and Pedigree Company conducted a big sale of famous Holstein-Friesians on the Michigan State Fair Grounds at Detroit, Oct. 3 and 4. Central New York dairymen will be represented largely at the National Dairy Show at Columbus, O., Oct. 18 to 27. Recent Syracuse State Fair winners will be shown there.

Milk Situation.—A greater crisis in milk circles is looming up for New York Dairymen than that of one year ago it is feared. Meetings of the numerous branches of the Dairymen's League are being called in all counties and leaders are warning the members that the dealers propose a battle royal over the fall contract prices, and all farmers are urged to make plans to care for their own milk for such a time as shall be necessary. This will work great hardships on the farm as well as for the city consumers, but the spirit of battle is stronger than that of the farmers one year ago when the famous milk war was so successfully carried out. The farmers have hoped that Mr. Hoover would investigate milk production in the state at this time, as they firmly believe such investigation could only prove helpful in securing the reasonable price for October and November milk, viz., $3.10 and $3.34 per cwt. set by the League as the minimum which farmers can take and break even.

Bonding Law Appealed.—The milk dealers secured a recent decision saying that the law requiring the bonding of milk dealers was unconstitutional. For years past milk dealers have defrauded farmers of their pay for milk, until Hon. N. F. Webb, now a director of the Dairymen's League, secured the bonding of dealers, in a law which became effective a year ago. The Dairymen's League petitioned the Department of Agriculture to enforce this law, and suit was brought to recover thousands of dollars in two test cases. The state department, the League, and Commissioner of Agriculture Wilson, believe the law to be a just protection of farmers and thoroly constitutional, and the cases have been carried to the Court of Appeals. It is said that the larger and more responsible milk dealers are willing to comply with the law.

Change in Milk Grading.—The New York City Board of Health is anxious to have a new system of milk grading go into effect October 1 which shall recognize bacteria content as the basis in grading milk. Producers acknowledge the justice of the proposal, but say they cannot introduce the new system so soon.—F.

NEW JERSEY FARM NOTES

Food Conservation. — With former Governor Jas. F. Fielder holding the position of Food Administrator, the New Jersey Food Conservation Commission is planning a big drive all thru the month of October to aid in the saving of food products. Following the suggestion of Federal Food Administrator Hoover the campaign will be directly aimed at wheat, meats, fats and sugar. The co-operation of the schools, churches, civic bodies, women's organizations, clubs and similar bodies will be enlisted in the cause. The Commission has elected Franklin W. Fort, of East Orange, chairman.

Apple Shipments.—The Department of Agriculture reports that New Jersey is shipping more apples just now than almost any other state. For the week ending September 17, 47 carloads were sent out of the state, besides thousands of packages in less than car lots. Up to the present over 1,000 carloads have left New Jersey. The crop is short but the quality is excellent and growers are receiving satisfactory prices. Bushel hampers are bringing $2 and barrels of good stock are selling for $5 and $6 in the wholesale markets. Good cultural methods are advanced for these prices. It is stated that many orchard owners sprayed from 4 to 6 times during the season.

Cabbage.—Just to the contrary is the situation with respect to cabbage. New Jersey growers consider it one of the poorest crops this year. Ever since June it has netted the farmers at the rate of 50 cents to $1.25 per barrel of about 100 lbs. During last winter it brought as high as $200 a ton, and in other years as low as $10 to $20.

Feed Prices.—Should the practice of some feed dealers who are charging exorbitant prices continue, the Department of Agriculture announces it will be constrained as a state institution to publish a list of the names of these dealers, so that purchasers may act accordingly. This action has been decided upon because of the many complaints from live stock feeders who declare they must sell their live stock for economic reasons, if the present unreasonable prices are to continue. They claim many dealers in the smaller towns are exacting a toll for feed which is not justified by the market conditions. In order to learn the exact condition, a census was made of the feed dealers in every county of the state by representatives of both the Agricultural Department and the State Agricultural College. Prices were asked of 76 dealers on corn meal, brewers' grains, and cocoanut meal, and the investigation showed that many were charging twice as much for some feeds as other dealers were charging. The Department says this is partially due to extremely unsettled conditions and those who bought early could afford to sell at a cheaper rate, and that while the average price was not out of proportion to the wholesale cost, still there were discovered instances where the retail prices were out of all proportion to the wholesale market price.—L.

VEGETABLE GROWERS' CONVENTION

The Tenth Annual Convention of the Vegetable Growers' Association of America will be held October 10-13, in Springfield, Mass. Hotel Kimball will be headquarters for the Convention as well as for the Pennsylvania delegation. The official delegation of the Pennsylvania Vegetable Growers' Association will leave Philadelphia on the P. R. R. from Broad Street at 5 P. M., October 9. Make reservations at the Hotel Kimball at once, mentioning the fact that you are a member of the Pennsylvania delegation. Advise your secretary, J. R. Bechtel, State College, Pa., and he will forward you a badge to wear for identification.

FARM MEETING CALENDAR

Eastern States Exposition, Springfield, Mass., October 12-20.
National Dairy Show, Columbus, O., October 18-27.
Sheep Show, Utica, N. Y., October 30-November 1.
American Pomological Society, Boston, Mass., October 31-November 4.
Association of Agricultural Colleges and Stations, Washington, D. C., Nov. 14-16.
Short Courses in Agriculture at Rutgers College, New Brunswick, N. J., open Nov. 20.
International Live Stock Exposition, Chicago, Ill., December 1-8.
New Jersey Horticultural Society, Newark, N. J., December 10-12.
Pennsylvania State Grange, Williamsport, Pa., December 11-13.
Maryland State Grange, Bell Air, Md., December 11-13.

FAIRS NEXT WEEK

County	Town	Date
	Pennsylvania	
Dauphin	Gratz	Oct. 9-12
Lycoming	Hughesville	Oct. 9-12
Perry	Newport	Oct. 9-12
Erie	Corry	Oct. 10-13
	New York	
Wyoming	Perry	Oct. 9-11
Livingston	Caledonia	Oct. 9-12

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Why Milk Tests Vary

Variations in Milk of Same Cow in Same Day

Time and again we hear the question, "Why do my milk tests vary from day to day, or from one week to another?" It is seldom that we get an explanation for these variations, which covers all points, for there are a number of things causing the herd milk to test differently today than it did yesterday. Drawn under the same conditions, from the same cows, fed and handled the same every day, we might expect to find exactly the same amount and the same percent of fat appearing every day. As a matter of fact, we find that even tho cows are handled ever so carefully, there are variations. This is plainly shown by the following daily record taken from the test sheets of the Connecticut Agricultural Experiment Station. These are actual figures taken by men who were studying this question, and who were very careful to see that every detail was checked. These cows were milked three times a day. However, that does not affect the conditions. Had they been milked twice a day, the fluctuations would have been as marked. The records are as follows:

MAKING GOOD USE OF THE AUTO TRAILER.

Day	Time of Day	Minnie Hubbard De Kol		Minnie Fay Pieterje	
		Lb. Milk	per cent Fat	Lb. Milk	per cent Fat
1	A. M.	16.2	2.8	21.9	3.7
	M.	10.1	4.9	9.7	7.1
	P. M.	11.1	4.2	10.7	4.8
2	A. M.	14.0	3.3	16.3	3.3
	M.	9.2	4.2	10.8	5.0
	P. M.	11.0	3.4	12.0	3.7
3	A. M.	15.8	3.6	18.3	3.3
	M.	9.2	3.3	12.1	4.5
	P. M.	11.0	3.6	12.6	3.2

In looking these over, we notice that Minne Hubbard DeKol varies from as low as 2.8 to as high as 4.9 in a single day. Again, we note that Minnie Fay Pieterje runs as high as 7.1 at her noon milking, and comes no way near that high at any other milking, facts which go to show that cows do not give the same testing milk every day, and that a variation in percent fat is to be accepted as the expected thing, rather than a proof of careless testing.

Again we find that a cow will vary from month to month, due to stage of her lactation. In a report given out by the Bureau of Animal Industry, Washington, D. C., we find cows that tested four percent at freshening time, dropped in their test gradually, month by month, until in the fourth month they were testing only 3.77. They then began gaining, testing a little higher each month until in the twelfth month they tested 4.6. Thus we see that a herd which has a lot of fresh cows will naturally test lower than will a herd with most of the cows well along toward the end of their period of milk.

Again we note that the season will cause the herd test to vary. As the warm summer months come on, the cows always drop in test, sometimes falling off a percent or two. As near as we can tell, it is the temperature which causes this, for cows fed the same feed winter and summer still show a decided variation in regard to their butterfat. Of course this may be counterbalanced somewhat if they freshen at such a time that the end of their lactation comes in the summer time. In that case, their natural tendency is to go up, while the tendency of the weather is to pull them down. Thus we see that it is often desirable to have the cows freshen in October or November. Then when spring comes on, the test will still hold up fairly well and at the same time we have quite a heavy milk flow.

Another thing which may cause the test of a herd to vary is unusual or abnormal treatment. If the herd is chased by a dog and the cows badly frightened, the test may show a marked variation for the next milking. Or if the cows are allowed to stand outdoors in a cold rain or a bad storm, not only their milk flow but their test as well will show the effects of such treatment.

Thus we see that cows actually do give milk which varies in test. Some days they are up and other days down, and it is not always possible to explain why this happens. All that we can be sure of is that it does happen. The man who expects his cows to test the same every day simply shows that he is not thoroly familiar with the mysterious processes by which a cow produces milk. — Glenn H. Campbell, Connecticut Agricultural College, in "Producer and Distributor."

THE GREATEST DAIRY SHOW

The National Dairy Show, to be held at Columbus, O., Oct. 18-27 promises to be the greatest inspirational and educational exposition to be held in the world this year—whether industrial or agricultural. This show has grown to such proportions in the last six years that it requires an equal number of buildings or more than are used to house the largest state fair given in the United States. The Ohio State Fair Grounds has over $2,000,000 worth of buildings, all of which are to be used in their entirety for the National Dairy Show. A coliseum, costing $250,000, and said to be the finest, most commodious and beautiful building of its kind in America, will be dedicated for the National Dairy Show.

Over half a million dollars are being spent by Ohio and Columbus to put the Ohio State Fair Grounds in proper shape for this show. Dairy and creamery machinery, farm and barn equipment, active manufacturing exhibits, displays of tractors, trucks and pleasure cars, feed and forage exhibits will fill all of the 150,000 square feet of space.

The U. S. Department of Agriculture, thru its dairy division, will have a very comprehensive display, showing the actual manufacture of by-products of the dairy business. This exhibit will occupy half of one of the large buildings on the grounds. The barns will be filled with over 1,500 representatives of the leading herds of Jerseys, Guernseys, Holsteins, Ayrshires and Brown Swiss. The heavy draft horse, represented by the Percherons, Belgians and Clydesdales, will be shown by the leading breeders. The prize list is almost as extensive as that of the International Live Stock Exposition.

A nightly horse fair will be given in the new commodious coliseum. The management expects to make this the greatest horse fair of America. Horses that are profitable for the farmer to produce will be exhibited, showing them in active use. Hunters, jumpers, polo ponies, cavalry and police mounts, heavy harness and delivery horses will also be shown every night of the nine nights of the Show. There will also be six,- eight- and 12-horse "hitches". Cattle parades and calf "frolics" will be nightly features.

The outstanding thought of this show is the possibility of the dairy industry, of its responsibility of feeding the people of the world. Twenty-six percent of the dairy cows of the country have gone to slaughter in the last seven months. Milk will become a luxury unless radical steps are taken to stop this sale. The mission of the National Dairy Show is to bring together the men and women of the dairy world and impress on them that a saving of our dairy herds today means the safeguarding and preservation of the lives of our children. Every dairyman interested in the future of his industry should attend this show.

NO AUTHORITY TO FIX MILK PRICES

The attitude of the U. S. Food Administration in regard to the milk problem, as affecting almost every section of the United States, was clearly outlined last week in a letter from the Food Administrator to Mr. I. E. Nathans, of New York City, Secretary of the New York Milk Conference Board reported as follows:

"I have given earnest consideration to your request for the intervention of the Food Administration in the pending settlement of milk prices with the producers' representatives. As you are aware, the Administration has no authority to intervene or to fix prices. We have a special committee engaged in an inquiry as to the cost of producing milk and its distribution, with a view to publication. The study is based not only upon inquiry into the agricultural phases but also the actual commercial experience in milk sales during recent years and the co-ordinate prices of feed and labor. You will understand that such an inquiry must be exhaustive and will require time and consideration.

"The probable large corn crops; the arrangements with the millers by which mill feeds will be cheaper; and the export embargo on many feeds, including cottonseed meal, will, I am convinced, reduce the cost of feed and consequently of milk production later in the fall. In consequence of this, I stated to a similar request from the producers, that while we could not intervene, that we did believe public interest would be better served if any contracts to be made were limited from month to month.

"We are anxious that the price of milk should not advance to the already sorely-tried city consumer and are convinced that all experience shows that increase in price will diminish consumption. On the other hand, we are in no position to pass upon either the justice or injustice of the producers' demands. Not only have we no authority to do so, but it seems to me that intervention in local trade settlements of this character if necessary rests upon state and city officials and not upon the federal government."

DOYLESTOWN COW-TESTING ASSOCIATION

The Doylestown cow-testing association of Bucks County, Pa., has completed its first six months' work with 14 cows in the honor list, that produced over 200 lbs. butterfat in the first six months. A registered Holstein cow, owned by Harvey D. Hunsberger, takes the lead by producing 8,462 lbs. milk containing 298.6 lbs. fat and a registered Jersey owned by F. M. Twining takes second place with 5,229.4 lbs. milk containing 271.1 lbs. fat.

The following is a list of the cows producing over 200 lbs. fat, the owner and breed of cow.

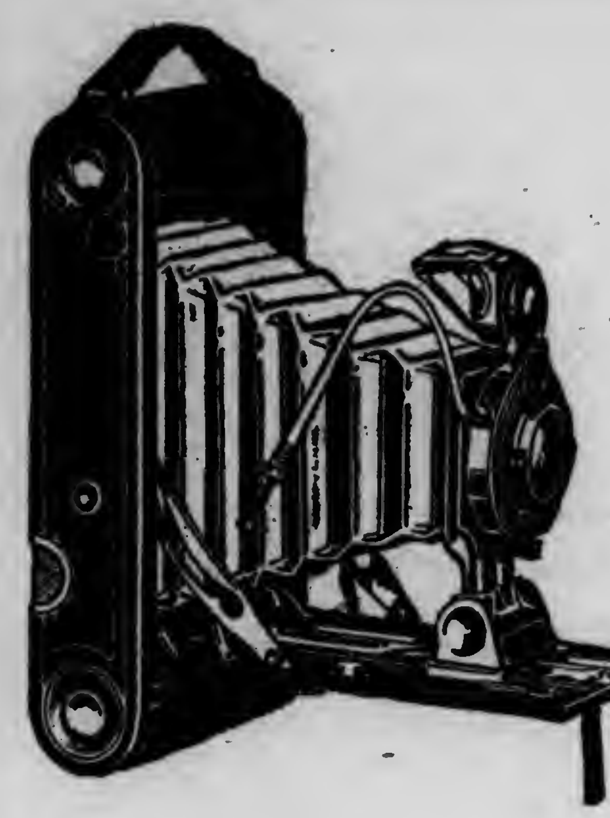
Owner	Breed	Butterfat
Harvey D. Husberger	Reg. Hol.	298.6
F. M. Twining	Reg. Jer	271.1
H. D. Hunsberger	Reg. Hol.	265.6
H. J. Smith & Sons	Grade Gur.	248.1
N. L. Myers	Grade Gur.	238.2
H. D. Hunsberger	Reg. Hol.	234.8
H. J. Smith & Sons	Grade Gur.	232.8
H. J. Smith & Sons	Grade Gur.	229.1
Jacob L. Shelly	Reg. Hol.	222.0
F. M. Twining	Reg. Jer.	217.4
John M. Myers	Grade Hol	213.4
Allen Zetty	Grade Hol.	205.8
John C. Myers	Grade Hol.	202.1
N. L. Myers	Grade Hol.	201.3

—Willis Hunsberger, tester.

COMMUNITY BREEDING IN ALLEGHENY COUNTY

Realizing that America must supply an increasingly large proportion of the world's live stock products during the next decade, the Allegheny County Farm Bureau is interested in establishing community breeding centers in the county for the purpose of bringing into this section better livestock. A carload of purebred Holstein cattle was delivered at Oakdale and distributed to farmers who purchased them thru a committee of farmers selected to purchase them in Michigan. These cows will be used for foundation animals, having behind them records of high milk-yielding capacity and good ancestry.

One of the most important features of the livestock program was the perfecting of an organization known as the Oakdale Breeders' Association. Nine farmers joined in purchasing a sire, Moonlight Cornucopia Sir Colantha, to be used for community breeding. This bull is of extra individual merit and choice breeding. He was winner of 2nd prize at the Michigan State Fair in 1914 as a calf, with strong competition. His sire is a son of the noted Colantha Johanna Lad, who was by the great "World's Fair's" prize winner, Sarcastic Lad, and out of Colantha 4th's, Johanna who is the only cow of the breed to hold all the butter rec-



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No. 2 Autographic Kodak, Jr., with meniscus achromatic lens and Kodak Ball Bearing shutter,	$12.00
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Ditto, with Kodak Anastigmat *f*.7.7 lens,	19.00

Ask your dealer to show you the "two-c Kodak," or write us for catalogue.

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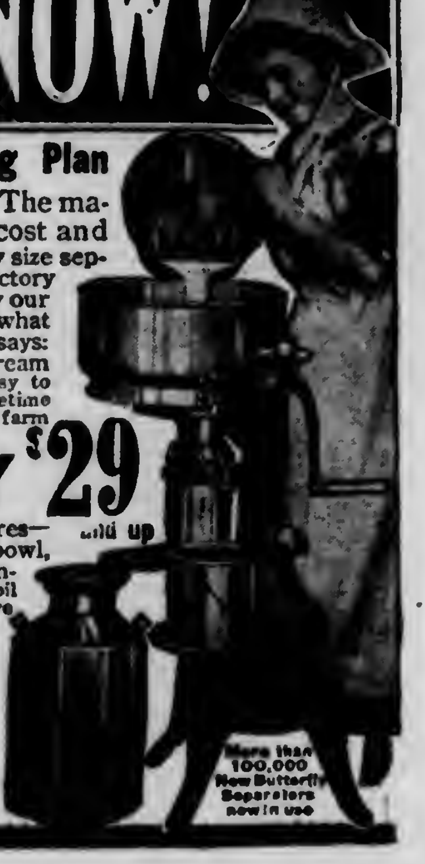
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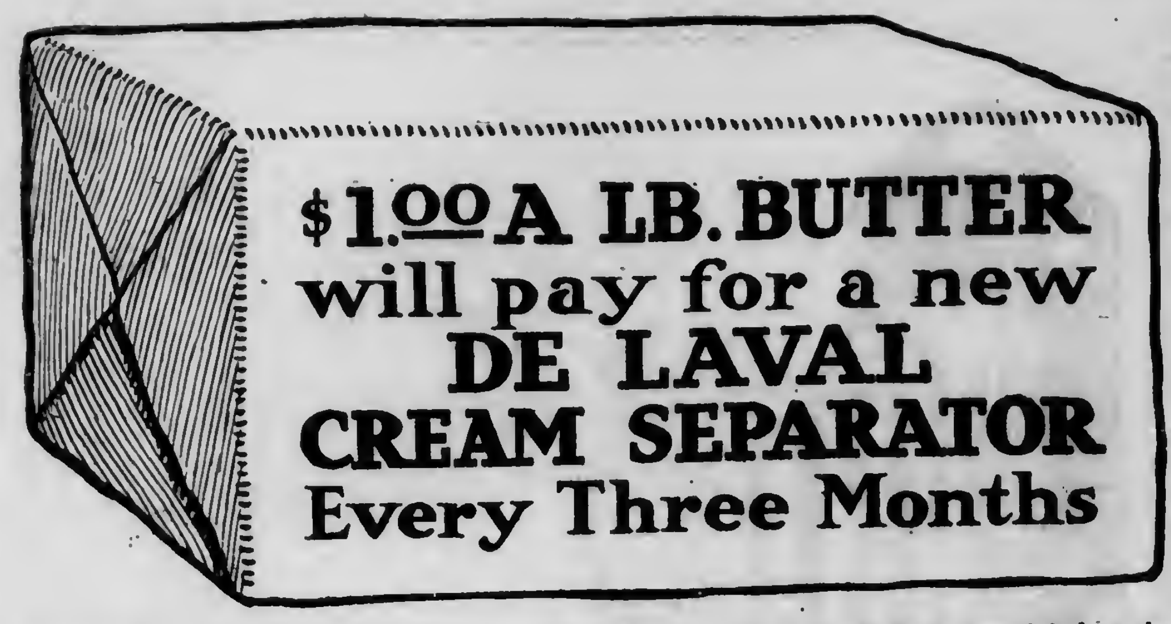

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ords from one day to one year at the same time.

The local cow-testing association, in charge of official tester C. R. Hill, will continue its work to improve the dairy herds by eliminating low-producing cows, balancing rations, increasing milk production by judicious feeding, care of cattle and better breeding. The Farm Bureau was also instrumental in placing a carload of sheep on nine farms in the county. The sheep were purchased and delivered to the farms cheaper than they could be bought in open market.—G.

Interstate Ass'n. Notes

Milk Tester in Field

The Interstate Milk Producers' Association has employed Frank M. Twining, Bucks County, Pa., as official tester. Mr. Twining is at the call of any of the locals and will test milk wherever called upon. Address requests for his service to Sec. R. W. Balderston. All dealers have shown a fine readiness to receive the tester and accept his reports. Efforts are being made to standardize tests and testing methods thruout the entire field.

Enlarged Headquarters

The Association has found it necessary to increase office space in its headquarters in the Heed Building, 1213 Filbert St., Philadelphia. The increased amount of work has necessitated more room and a larger working force. It is probable that regular meetings of the Board of Directors will be held in the office rooms in the near future. The offices are open every day, and members are invited to call whenever in the city.

Dairymen Organize

Dairymen have long felt the need of a sound plan of organization. Now they have this plan in the Inter-State Milk Producers' Association. The need of the strong arm of organization, raised up at the instant any person or obstacle gets between the producer and the consumer, has long been felt. Dairymen are anxious to do their bit these trying days of threatened food shortage. They are convinced today, as never before, that only the strength of organization can remove prohibitive freight rates, unreliable distribution of milk and feed materials.

The writer was much gratified with the success met with in Adams and Cumberland Counties last week. At Carlisle, more than forty members were secured. This number was exceeded at Lees Cross Roads and other points in the county. Even greater success was met with in Adams County. The writer was told that $1.30 per hundred and skim milk back was all they received for milk. With a pound of dairy feed costing three cents and milk selling at one and a half cents per pound, with the expense of manufacturing this feed into milk, it is not to be wondered at that the need of the organization is felt.

The dairy farmer has little choice about organization. The time has come when he must either organize or quit the business. Milk companies like all other organizations will always buy milk as cheaply as they can, no matter for what they sell it. Milk, being a highly perishable product, must be sold daily. Without organization, the price will be constantly lowered until producers are discouraged, and, with the high price of beef, the butcher will shortly have his herd.—J. N. Rosenberger.

Organization Work

Talbot County, Maryland, organized three strong and enthusiastic locals last week. The membership is good in each and there is a vigor in the work that promises well for the future.

NO TIME TO SELL HERDS

In spite of the fact that a great many dairymen have disposed of their herds and have gone out of the dairy business, we believe that the future prospect for the dairyman is bright. On account of the extremely high prices for dairy feeds and the comparatively low return for dairy products, many dairymen have become discouraged and quit the business. Some of them have spent a number of years in building up good dairies. They had been breeding and weeding until they had good herds. Is it wise to dispose of such herds hurriedly when market conditions for dairy products are uncertain for a time?

It has always been true that when certain lines of farming did not seem to pay, some farmers dropped that particular line and tried something else. Conditions that depress prices for one or two farm products usually last only a season, or until a balance is again established. A farmer can cut out a growing crop for a time and start almost where he left off without much loss to him; but it takes time and money to replace a good herd of dairy cows.

There has always been a demand for the products of the dairy, and as population increases the demand will increase. The cities will always need a milk supply. The dealers will see to it that they will get it. If the farmers will not produce it, the large dealers will purchase farms and stock them with milk cows and be both producers and sellers.

The milk shipper can expect better returns for his product in the future, for he now has some say in regard to fixing the price. The dealer used to do all of the price fixing. But since the shippers are organized, the dealers have simply got to let the shippers do some of the price regulating.

No doubt the farmer who sticks to the dairy will win in the end. Selling the dairy is usually the beginning of the end. The farmer who disposes of his dairy usually tried to farm with a smaller number of animals than he should have, and the outcome is that his farm produces smaller crops every year. On the other hand, if he would keep his farm well stocked with dairy animals the farm is made constantly more productive.—E. H., Montgomery Co., Pa.

THE CHEAPEST DAIRY FEED

The dairy department of the New Jersey Experiment Station advises that cottonseed meal is at present considerably the cheapest dairy feed on the market. It has long been the cheapest source of protein, but now with corn and its by-products selling around $80 a ton and cottonseed meal around $50, cottonseed meal is also the cheapest carbohydrate, or energy feed. This holds true with cottonseed meal at $50 a ton just so long as corn or hominy is selling for more than $45 a ton.

Cottonseed meal, however, has a bad reputation as a dairy feed when fed to excess. This arises quite largely from the fact that cottonseed meal and cottonseed hulls are lacking in mineral constituents. In the South where animals are fed exclusively on cottonseed hulls and meal, a condition of malnutrition arises on account of a lack of the essential mineral elements. Alfalfa hay and corn silage have a comparatively high mineral composition and a large amount of cottonseed can be fed with them. Feed more cottonseed meal and cheapen your ration.

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32x3½	11.50	12.95	3.00
34x3½	12.15	13.35	3.55
31x4	14.75	16.60	3.70
32x4	15.05	16.85	3.80
33x4	15.75	17.20	3.90
34x4	16.10	17.55	4.00
35x4	17.00	18.60	4.50
36x4	17.20	18.65	4.30
34x4½	21.65	23.65	4.90
35x4½	22.70	24.70	5.00
36x4½	23.05	25.15	5.15
37x4½	23.95	26.10	5.35
35x5	24.90	27.25	6.05
36x5	27.10	29.60	6.65
37x5	26.40	28.85	6 25

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Cellar Storage of Fruits and Vegetables

By JOHN MARSH, Jefferson County, Ohio

A cellar in which to store perishable farm produce for winter use can be found on practically every farm in the northern states. Some of these cellars are ideal for the preservation of fruits and vegetables, while others are not properly constructed for this pupose. Sometimes we must resort to the practice of storing produce in pits for long keeping, which is a more troublesome and more expensive method. Cellar storage is just as satisfactory as pit storage if temperature and moisture are under proper control. A properly-built cellar compares favorably with the more expensive cold storage house. Such a cellar is almost a necessity on every farm.

Most fruits and vegetables require plenty of moisture in storage. The wilting of apples, potatoes, beets, turnips, etc., is caused by storing in dry air. Most of the old-time cellars are more satisfactory in this respect than the more modern, cement-floored cellars. The temperature must be kept low, only a few degrees above the freezing point for best results. Of course, the temperature of an ordinary cellar cannot be regulated as closely as in an artificial cold storage house. Even in winter, a few days of warm weather will increase the temperature, but such periods are usually of short duration, and cause but little damage.

There are still a few old-style caves in use, built largely above ground, with a comb roof of slabs or timbers, which was covered with two or three feet of earth to make the interior frost proof. Such a structure gives good service, but is not as durable as a cellar built underground, over which a building is erected.

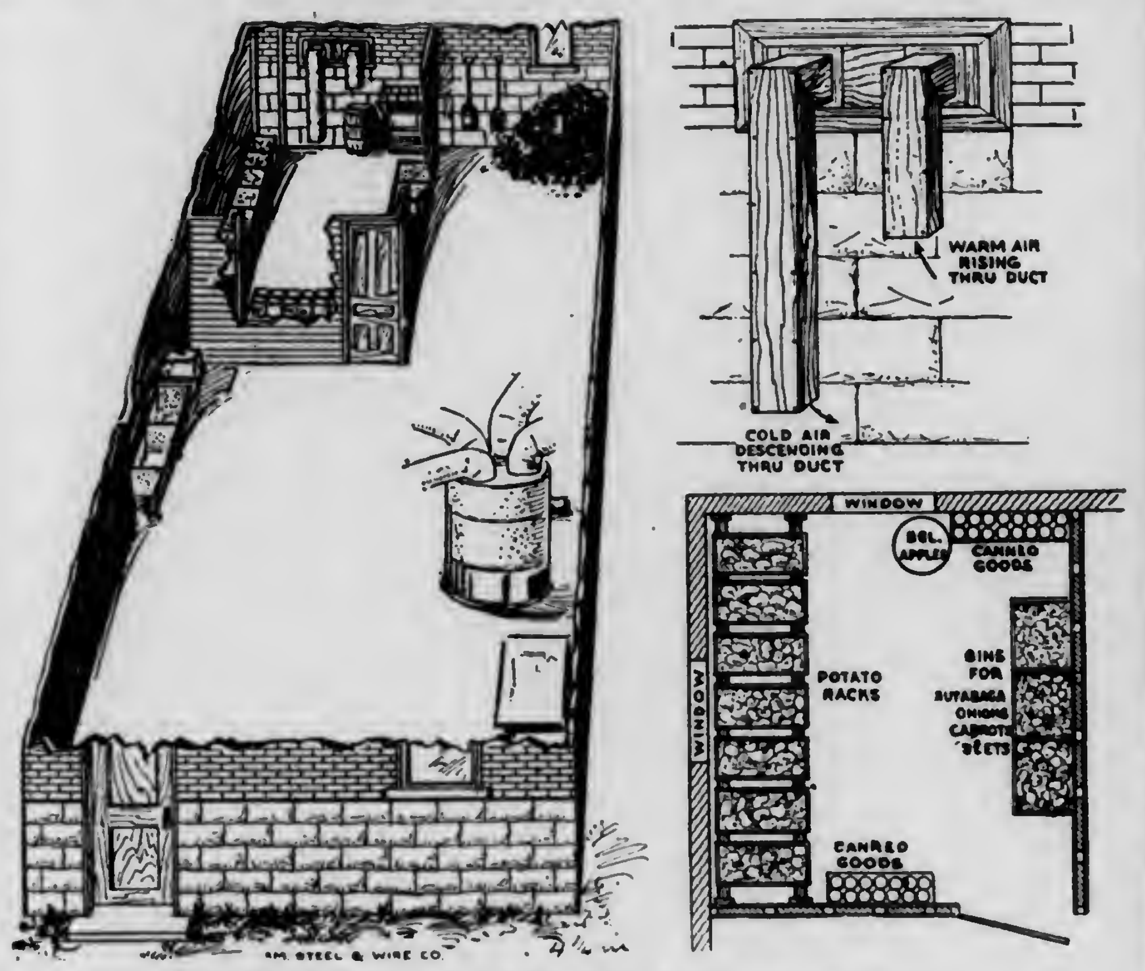
Usually a cellar is located under the dwelling house. From the standpoint of convenience, this is an ideal arrangement, as the cellar can be entered from the floor above. However, in most modern houses there is a heater located in the cellar, which causes the temperature to rise too high and remove too much moisture from the air. This objection can be partially overcome by locating the heater in a separate room of the cellar, and erecting an air-tight wall of brick, stone or concrete between the heater room and that part of the cellar which is used for storage. A cellar which is located under an outbuilding, such as the farm shop, is free from this objection.

Stone, brick or concrete are the best materials for cellar walls, with regard to permanence and control of temperature and moisture. Hollow tile or building blocks are giving good satisfaction in most cases. Most cellars are entirely underground, but when a portion of the wall is exposed aboveground, it should be banked up with dirt to the top of the wall. The thicker the wall, the more equable will be the interior temperature. It is useless to expect satisfactory results with part of the wall above ground unless it is 15 inches or more thick. A thick wall of rough stone is ideal for a cellar.

One or two small openings should be left in the wall for light and ventilation; about four square feet of opening in a cellar 12x15 feet will be sufficient. These openings should be fitted with tight board shutters, and may be packed with straw or other insulating material in extremely cold weather. The ceiling should be made of matched lumber, with an air-space between the ceiling of the cellar and the floor of the room above.

In most respects, solid earth is the most satisfactory floor for a cellar. An earth floor provides more moisture than a cement floor, but in cases where the floor is too wet, brick can be laid loosely, without mortar, and the necessary moisture will arise between the bricks. If the cellar is excessively wet, a tile drain can be laid from the lowest point to a lower point outside; or where this is impossible, because of level nature of the ground, it will be necessary to floor the cellar with waterproof cement.

The temperature of a cellar can be regulated by opening and closing the ventilating windows. During the fall and early winter, the windows should be opened on cold, frosty nights, thus lowering the interior temperature, and closed during the day, to exclude the warmer outside air. When steady cold weather comes, and the cellar has been cooled to 35 or 40 degrees F., the windows may be kept closed day and night. In very severe weather, if there is a possibility of the temperature falling below the freezing point, we can resort to artificial methods of heating. By lighting a lantern and a large lamp, we have raised the temperature of a cellar 6 degrees in less than 12 hours. Another method of heating is to heat a number of bricks until they are red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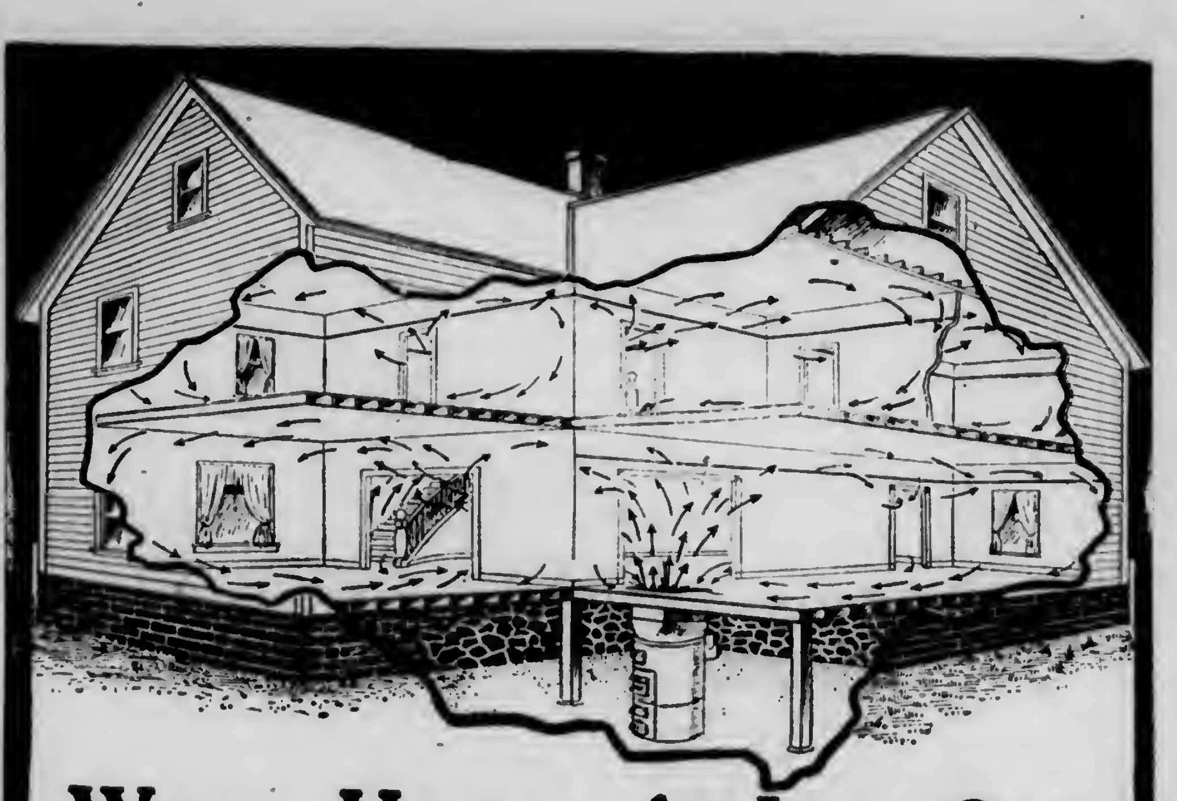

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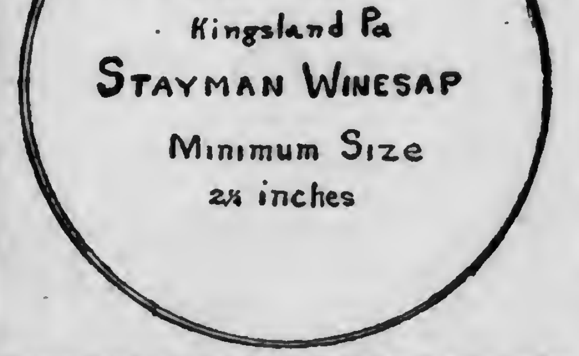
hot, and place them in the cellar; or a barrel or tub of hot water may be placed near the articles which are most easily injured by frost.

The lowest temperature which produce will stand without injury varies from 26 to 30 degrees F. Potatoes which have been subjected to a temperature of 28 degrees F. for a day or two are apparently uninjured for planting, altho they may not germinate as quickly after planting. Apples, turnips and beets will stand cooling to 26 degrees F. without injury, while canned fruits and vegetables should not be subjected to a temperature lower than 28 degrees F.

Pumpkins and squashes require a cold, dry air for long keeping, therefore they should not be stored in the moist air which is beneficial to apples and roots. Celery can be packed loosely in boxes or on the cellar floor, with the roots covered with moist loam or sand. However, the stalks of celery must not be covered, as they are very susceptible to rust and rot.

The usual spring housecleaning should in all cases include the cellar. After the stored products are removed, the bins should be thoroly swept out. Rotten apples and potatoes which are allowed to remain until the next storage season comes around make the air impure, and may contaminate the newly stored products and thus stimulate the processes of decay. An occasional coat of whitewash on walls and ceiling helps to keep the interior of the cellar clean.



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THE KIND OF INFORMATION REQUIRED ON EVERY PACKAGE OF FRUIT PACKED IN PA.

Apples and similar fruits must be handled with care both before and after storage. Defective and bruised fruit should be sorted out and stored separately. Even when observing these precautions, a few specimens will decay after a few weeks of storage, and the fruit should be sorted over and the damaged part removed.

PENNSYLVANIA APPLE PACKING LAW

Fruit growers and farmers of Pennsylvania will remember that the apple packing law passed by the last legislature took effect on September 1, and thereafter, all fruit packed and offered must conform to its provisions. It is made unlawful for any one to offer for sale or ship for sale any fruit which is not properly marked; misbranding is forbidden and violations of the act are punishable by a fine of not more than fifty dollars for the first offense, or not more than one hundred dollars for the second offense. The Secretary of Agriculture is authorized to execute the law and make such rules and regulations as may be necessary.

It is required that every closed package shall bear upon the outside of one end, in plain figures or letters or both, the name and address of the owner or the person by whose authority the apples are packed, the name of the variety, the minimum size or numerical count. Additional information which is in accordance with the Apple Grading law of the United States may also be added.

It is provided that all the apples contained in the package shall be fairly represented by the face or exposed surface of the pack. The minimum size shall be determined by taking the transverse diameter of the smallest fruit in the package, and be stated in variations of one-quarter inch. A tolerance of five percent in regard to size shall be allowed.

The letters and figures used in marking shall be of a size not less than thirty-six point Gothic, which means that the letters must be not less than one-half inch high.

They afford opportunity for some changes in the planting scheme from year to year without disturbing the permanent plants, but as they require attention at a busy time of year both for men and women folks on the farm it is likely that they should take a temporary or subordinate place.

The benefit that comes from developing a suggestion of parental solicitude in seed sowing and caring for the little plants from their beginning will not be lost if the undertakings are not so large as to be liable to be crowded out by other duties. There are hardy plants that may be raised from seed that will be a more lasting reminder of their tender care and make for constant additions to the permanent planting around the busy farm home, that needs the refinement of flowers and trees. — **Frank M. Bartram**, Chester County, Pa.

QUERY ON PLANT RAISING

"I want to raise cabbage plants for selling in the spring. I have sown the seed in a bed this week. Will these plants stand the winter in this latitude without protection? If they must have protection how can it be given without using hotbed sash? Will the plants do to set out in April so as to produce a crop of cabbage? I also wish to know if rhubarb seed planted now will produce salable roots by next spring."—F. E., Washington, D. C.

The plants will not stand the winter in the seed bed. It is common as far north as Baltimore to set out the plants in the late fall for spring heading. Around Baltimore, and in most places south of that city, the common method is to plant low down on the south side of sharp ridges running east and west three feet apart. I found in North Carolina that this method led to a great deal of winter killing. There the plants are exposed to the winter sun and may get damaged by the morning sun when frozen, and in warm spells they are excited into growth and the return of cold kills them. I found that they live far better when set on the north side of the ridge.

The Georgia Experiment Station made experiments with various ways of setting. They found heavy loss when set on the south side of the ridge, much less loss when set on the north side and still less when set in open furrows. I have proved this to be the case and now advise setting in the open furrows. They are there protected not only from the north cold winds but also shaded from the winter sun. The plants are set with the stems entirely in the ground, the furrows being run out and filled with manure and then listed on the furrow from each side. Then this ridge is opened with a shovel plow and the plants set in this furrow.

This method is for heading early in the spring. But if you want to sell the plants in the spring the best way is to transplant the plants in a cold frame two inches apart all over the bed, setting them down to the leaves. You can protect them in cold nights with sashes or plant cloth, but leave them entirely exposed when the mercury is not lower than 25, or even 20 will not hurt. The object is to keep them dormant and not allow them to get growing in winter.

They should be set in the frame in November as soon as large enough to handle. Of course, you can run out furrows closely east and west and set the plants in the open furrows thickly and they will usually keep, but they must be transplanted and set deep enough to cover the stems, for if the stems get bursted by frost the plants are worthless and will run to seed instead of heading. -W. F. M

Ornamenting Farm Lawns--II

By FRANK BARTRAM

A class of plants that merits much more frequent planting than in the past includes the so-called "bush-roses". They are clean, neat growers with healthy foliage. The delicacy of bloom is very pleasing while the bright seed vessels that last a long time betoken cheer and plenty. The Setigera, or Prairie rose, the Lucida, the Blanda and the Rugosa with pink and white flowers are particularly adapted to farm houses, while some of their hybrids, like Mrs. George Bruant and Conard Meyer, are fore-runners of a class of double flowering sorts likely to be popular.

Some of the climbing roses are fine. The crimson rambler is popular and showy while in bloom. The Dorothy Perkins and American Pillar are much more delicate in tone.

The Wichuriana with neat, glossy little leaves and single white flowers, followed by red fruits, represents a desirable group for climbing or spreading over walls, stumps, banks, etc. Among other climbers the clematis paniculata goes well with roses, being healthy in foliage and covered with a mass of white bloom after the rose season is over.

The honeysuckles, with fragrant bloom, are healthy and vigorous growers, efficient either as screens or for covering stumps, or to protect banks from washing. The ampelopsis clings to walls by curious little suckers. It is a good grower with brilliant autumn tints.

Hardy perennials planted informally in borders require comparatively little attention during the busy season and afford a lot of satisfaction. They may be selected to produce a succession of bloom thruout the season and they are particularly showy in the late summer and early fall, thus admirably supplementing the shrubs.

Peonies are long lived and their bright colors are remembered in connection with many a happy home. The Iris is very showy and by including many kinds the season of bloom may be much prolonged. Coreopsis lanceolata is in bloom for a long time; the color is bright yellow. Larkspur and columbine are old favorites. The hardy chrysanthemums hold out until after frost. Phlox, with wide range of color and long blooming period thruout the late summer, makes for deserved popularity.

There are many shady spots which ferns or periwinkle or day lilies could occupy to great satisfaction. Such hardy bulbs as snowdrops, crocus, and narcissus when once established re-appear each spring and always to our pleasure.

Annuals are cheaply and readily procured as seeds and give quick returns.

Timely Fruit Notes

By Dr. J. P. STEWART

Method of Applying Tree Tanglefoot To Keep Down Insects

I have recently seen in some of the newspapers how trees have been damaged by putting a ring of certain kinds of materials around their trunks to keep down caterpillars and other insects from climbing up them. I wish to know whether I am damaging the trees on my property by putting bands of this tangle sticky stuff around them. I have been doing this for several years and have tried to put new bands on each year at the same place that the old bands were in order to not disfigure the trunks of the trees any more than necessary. I do not shave off the old bands, but put the new bands on top of the old ones. Thus far I have seen no evidence of any damage to the trees, but of course in the few years that I have been doing it there would be hardly time for the damage to show.

If what I am doing damages the trees, I would like to know if there is any other way which I can adopt of keeping the insects and caterpillars from going up the trees. If you can answer this question I shall be very much obliged.—H. P. L., Lancaster Co., Pa.

Tree tanglefoot applied directly on the bark is not always harmful but there is some risk in applying it this way. When it is made simply of resin, castor oil and some such sticky materials as printers ink it should be safe, but if turpentine or heavy mineral oils are used in the preparation, damage is likely to follow. For this reason it is usually best to apply this and similar materials on a band of tarred paper or its equivalent. This band should be six or eight inches wide, should be lightly tacked or tied around the trunk, and all cavities should be filled with cotton to keep the insects from crawling under. The bands also should be kept sticky by fresh applications when needed and especially when the undesirable insects are coming on.

Fall Planting of Orchards

On the principle that it often pays in horticulture to do the thing that the others are not doing, this may be a good time to start an orchard. At any rate, the fall is usually a very good time to do some planting of trees, and the present prices of fruit do not reveal any symptoms of over-production.

The advantages usually claimed for fall planting are as follows: The weather and soil are usually more favorable for work. The trees have a chance to become at least partially established, and hence should make an earlier and more normal start in the spring than those planted at the latter time. The stocks of trees at the nurseries are largest and most complete in the fall, and hence conditions are best for buying. The dangers of improper storage are avoided, and the chances for mistakes or substitutions in varieties are reduced.

The principal objections to fall planting are that the trees will not be sufficiently matured before digging, and that they may not become well enough established in their new locations to escape winter injury, especially in the more rigorous sections. This situation is perhaps best met by allowing the trees to stand in the nursery until about the middle of October or slightly earlier, and, in the meantime, preparing the land and placing everything in readiness for immediate planting on receipt of the trees. Nursery trees are not properly matured until at least some of the leaves begin dropping naturally and the new growth becomes relatively thick, firm and brown.

If it is impossible to secure trees in the proper condition by the time stated or if the winters are too early and too severe in the locality concerned, it is still generally advisable to buy the desired stock in the fall and heel it in for planting in spring as soon as the soil is fit.

The varieties of apples and peaches now recommended for this state are as follows, named approximately in order of ripening. For any particular locality the number of varieties should usually be reduced, preferably on the basis of local experience.

Apples for Northern Pennsylvania, and higher altitudes in Central Pennsylvania:

Yellow Transparent, Red Astrachan, Oldenburg, Gravenstein, Fall Pippin, Wealthy, McIntosh, Hubbardston, Northern Spy with Wagener as filler, Stayman Winesap on light or sandy soils, Rome Beauty and Stark.

Apples for Southern Pennsylvania, and lower altitudes in Central Pennsylvania:

Yellow Transparent, Early Harvest, Primate, Benoni or Summer Pearmain, Summer Rambo, Maiden Blush, Wealthy, Smokehouse, York Stripe, Jonathan as filler, Grimes (top-worked on Tolman or Paragon), Delicious, Stayman Winesap, Rome Beauty, York Imperial, Paragon or Arkansas, and Stark.

Peaches

Mayflower, Greensboro*, Arp Beauty, St. John, Carman*, Hiley*, Champion*, Belle*, Elberta, J. H. Hale, Frances*, Crosby*, Fox, Smock, Iron Mountain*, Stevens, and Solway.

* These varieties are especially hardy in bud.

CONTROLLING PEACH TREE BORERS

The peach tree borer lives most of its life as a worm embedded beneath the bark of the tree, usually just below the surface of the soil. Here it starts as a very small worm, eating away the life of the tree, getting larger and larger until it undergoes a change into a pupa and then a moth, which lays eggs for more worms to carry on their destructive work on the peach trees. The moths lay the eggs on the trunk and branches of the trees during the summer—most of the eggs hatch in from 10 to 15 days and the young borers enter the tree. By frost the borers have all entered the trees and some will be very small while others are nearly full grown.

Leonard Haseman of the Missouri College of Agriculture offers the following suggestions for control:

Draw the soil away from the trunk of the tree to a depth of four inches or until the roots are exposed and search for the tunnels. With a sharp knife follow these tunnels until the worms are found, and then kill them. The presence of a mass of gum at the base of a peach tree usually indicates the presence of borers. This gum is thickened wax which escapes where the tree is injured. There may be a number of borers in a single tree. The worker should get at least all the larger ones before leaving the tree. A small slender white worm is often found in the sap. This is not the peach tree borer and it does no damage to the tree, but lives on the sap. Where borers are abundant, worm the trees again in the spring. Also get rid of old worthless peach trees, practice clean culture in the orchard, and keep the bearing trees vigorous.

Peach tree borers do a great deal of damage and many people have abandoned the growing of peaches because of them. However, they can be controlled successfully if the proper effort is made.

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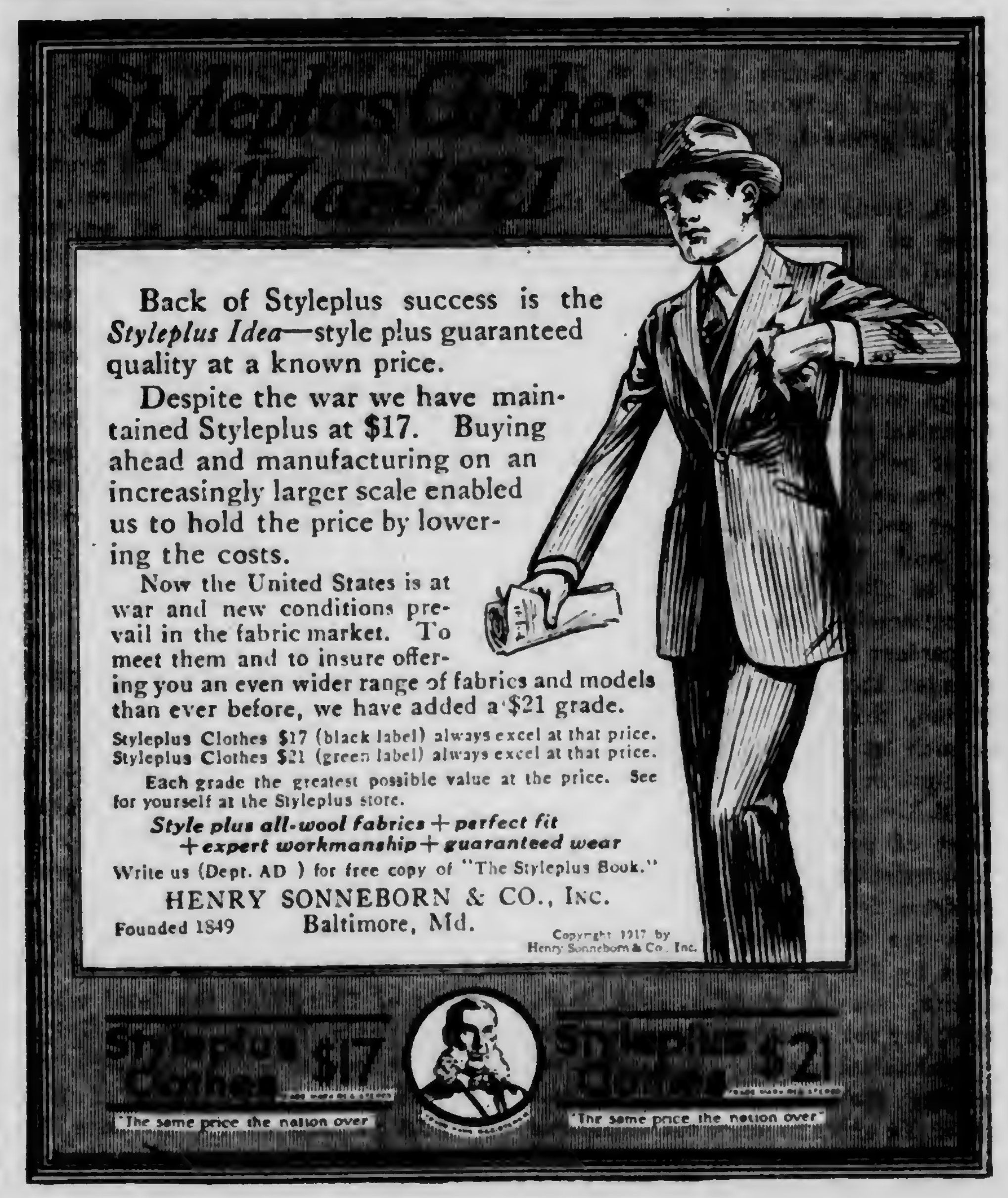
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Farm Products Prices and Prospects

ESTABLISHMENT OF POTATO GRADES

Result of Potato Conference

Growers, shippers and distributors of potatoes met in Washington recently to discuss this year's potato crop and to determine the course of action to be pursued in the growing and distribution of next year's crop. In the opinion of this group of men, the regular channels of trade should be interrupted as little as possible, unless some unusual contingency should arise. In such event, they believe that the U. S. Food Administration is undoubtedly in position to take such action as will best serve the interests of all, and that such action would receive their hearty support and co-operation.

It was requested that due consideration be given to the increased cost of production by reason of higher labor and seed cost. Recommendations were also made that effort be directed to move the present potato crop at such prices as will encourage the grower not only to continue his efforts for the production of future large crops but crops of such improved quality that an increased consumption may be expected.

One of the features of the meeting was the recommendation that definite grades of potatoes be adopted. This was deemed advisable because of the tremendous economic waste due to improper grading; and also because the shipping of ungraded potatoes means cost of transportation, waste of railway equipment and labor in handling potatoes which, while worthless at destination, would have had some value as stock feed on the grower's farm.

Following this meeting the Department of Agriculture and the Food Administration jointly recommended and urged the adoption of the following grades, which in their opinion will meet the needs of the Federal Reserve Board —which has authorized the making of loans for warehouse receipts on properly graded potatoes—as well as the needs of growers, dealers and consumers:

U. S. Grade No. 1.—This grade shall consist of sound potatoes of similar varietal characteristics, which are practically free from dirt or other foreign matter, frost injury, sunburn, second growth cuts, scab, blight, dry rot, and damage caused by disease, insects, or mechanical means. The minimum diameter of potatoes of the round varieties shall be one and seven-eighths inches, and of potatoes of the long varieties one and three-fourths inches. In order to allow for variations incident to commercial grading and handling, five percent by weight of any lot may be under the prescribed size, and, in addition, three percent by weight of any such lot may be below the remaining requirements of this grade.

U. S. Grade No. 2.—This grade shall consist of potatoes of similar varietal characteristics, which are practically free from frost injury and decay, and which are free from serious damage caused by dirt or other foreign matter, sunburn, second growth, cuts, scab, blight, dry rot, or other disease, insects, or mechanical means. The minimum diameter shall be one and one-half inches. In order to allow for variations incident to commercial grading and handling, five percent by weight of any lot may be under the prescribed size, and, in addition, five percent by weight of any such lot may be below the remaining requirements of this grade.

For the purpose of the above recommendations no attempt has been made to provide grades for potatoes of extra finer quality and size, or for lots of potatoes composed of different varietal characteristics, or for potatoes under the minimum diameter, and other requirements of U. S. Grade No. 2.

Unless shipped in bulk, potatoes of U. S. Grade No. 1 should be placed only in new, clean sacks or barrels, which should be well filled, securely sewed or covered and, in addition to any necessary statements or marks, should be plainly marked "U. S. No. 1."

Containers of potatoes of No. 2 grade also should be plainly marked "U. S. No. 2."

A joint committee representing the growers and the shippers and distributors at this conference went on record as recommending that the Bureau of Standards be urged to take the necessary steps as soon as possible toward the establishment of 100 pounds as the unit upon which quotation of prices and buying and selling of potatoes shall be based thruout the United States.

POTATO HANDICAPS

The widespread frost of September 10-11 has finally knocked out all chance for a record crop of potatoes. Poor seed, late planting, amateur growers, too much rain, a wet summer, blight and rot in the east, and now frost are handicaps which a large acreage could never overcome. My own crop will be very heavy from the spraying to keep the vines which are now a solid mass of green.—Daniel Dean, Tioga Co., N. Y.

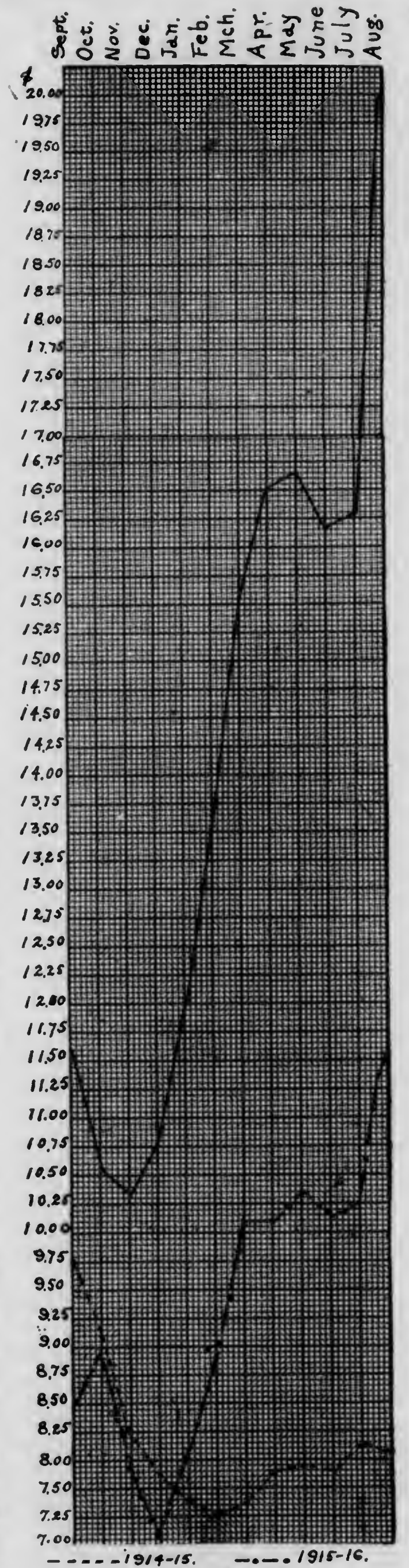
NEW JERSEY CROPS

Monthly crop report, showing summary of crop correspondents' estimates for entire state, September 1, 1917:

Wheat, average yield per acre, 19 bushels of 60 pounds. Rye, average yield per acre, 19 bushels of 56 pounds. Oats, condition at time of harvest, 94 percent. Corn, condition, 85 percent. Buckwheat, condition, 85 percent. Potatoes, white, condition, 73 percent. Sweet potatoes, condition, 83 percent. Hay, all tame or cultivated, average yield per acre, 1.53 tons of 2,000 pounds. Pasture, condition, 75 percent. Tomatoes, condition, 78 percent. Cabbages, condition, 78 percent. Onions, total production, 85 percent. Apples, condition, 60 percent. Pears, condition, 52 percent. Cranberries, condition, 92 percent.

INTERNATIONAL CROP REPORT

A cablegram from the International Institute of Agriculture, Rome, Italy, to the Bureau of Crop Estimates, United States Department of Agriculture, received August 18, 1917, estimates grain crops in 1917 as follows: Wheat in Ireland, 4,347,000 bushels, or 153.8 percent of 1916 and 237.1 percent of the average of 1911-1915; the total wheat crops of Spain, France, Ireland, United States, India, and Japan, as 1,366,000,000 bushels, or 100.7 percent of 1916 and 88.3 percent of the average for 1911-1915; the rye crops of Spain, Ireland and United States, as 84,000,000 bushels, or 110 percent of 1916 and 125.8 percent of the average for 1911-1915; the barley crops of the same three countries, 288,000,000 bushels or 104.9 percent and 103.3 percent of the five-year average; and for the same three countries, oats, 1,574,000,000 bushels.



RANGE OF LIVE-WEIGHT HOG PRICES AT CHICAGO SEPT. 1914 TO AUG. 1917.

*RANGE OF LIVE-WEIGHT HOG PRICES

The accompanying chart shows the range of prices each month for the past three years at the Chicago Market. Each year is indicated by a different curve line as indicated below. By following each line from left to right the highest price for any month may be found. It will be noticed that in each curve there is a decided drop in price in November and December, then it begins to go upward. The curve line showing the range of prices from September, 1916, to August 31, 1917, is one of the most radical in farm products, being a rise from $10.35 in November to $20 in August.

LICENSES FOR POTATO SHIPPERS

Unanimous approval of the Food Administration's tentative plans for the licensing of potato shippers was the outstanding development of the meeting this week in Washington of upwards of 80 large potato shippers, representing practically every important potato section of the United States. These men were called to Washington by the Food Administration to discuss ways and means for securing an equitable distribution of America's first war crop of potatoes.

The official grades for potatoes recently promulgated by the Food Administration and the Department of Agriculture jointly met with unanimous approval, and the assemblage voted to follow the practice of buying and selling potatoes by the hundred pounds instead of by the sack or barrel, as has been the custom.

Each state represented elected one man to serve on a joint committee, which will meet with the Purchasing Committee of the Council of Defense to discuss ways and means of supplying the potato requirements of the Army and Navy.

The Minneapolis mills last week produced 367,000 barrels of flour. This was the largest week's output for many weeks and in excess of the production for the corresponding week of 1916. The wheat used totaled 1,652,000 bushels, while the wheat receipts for the week amounted to 2,467,000 bushels. This week's receipts, so far, have been heavy and there is no indication that this condition will change. — Report from Minneapolis mills.

OATS CROP IN NORTHWEST

There is reported to be a shortage of more than 22,000,000 bushels in the oats crop of the Pacific coast states and Montana, due to dry weather. Oregon, Washington and California are short 10,000,000 bushels and Montana 12,000,000 bushels from last year. Dealers in these states are buying oats in Minneapolis, as they are unable to supply their wants in North Dakota, where there is also a short crop. They are also asking the northwestern markets for offers for corn for shipment.

HAY AND WHEAT IN CANADA

The total yield of fall wheat in Canada for 1917 is now estimated at 17,816,000 bushels, from 809,250 harvested acres, as compared with 20,060,000 bushels from 932,500 acres in 1916. Spring wheat acreage sown in 1917 is estimated at 12,740,400, as compared with 11,942,000 in 1916.

The total yield of hay and clover is placed at 13,379,000 tons from 7,824,000 acres, as compared with 14,637,000 tons, the record crop, from 7,892,000 acres in 1916. This year's total yield of hay and clover has only been exceeded twice, viz, last year and in 1911, when the yield was 13,989,000 tons.—Census and Statistics Office of Canada.

Among the Granges

Lycoming County, Pa.—The annual Lycoming County Pomona Grange picnic was held in Lehmans' Grove, near Oriole. Between 400 and 500 grangers were present at this picnic. People from all over the county as well as from neighboring counties took occasion to be present, wishing to hear the addresses of State Master John A. McSparran, and John Ketchum, master of the Michigan State Grange. The Greensboro cornet band, an organization of twenty men and boys, gave a concert in the afternoon, a baseball game between the married men and single men took place, and a short business meeting for the purpose of making plans for the state grange to be held in Williamsport in December was held. This was a basket picnic, and after dinner the grangers gathered on the seats in front of the grand stand and listened to the addresses. Mr. Ketchum was the first speaker and his theme was "The Subordinate Grange, and the place it holds in the rural community". Mr. Ketchum pleaded for the grange as a community center. He declared that it had no creed, no politics, no special church. That it was a large organization, open to all farmers and to those interested in rural life. The first thing that the granger must do if he wishes to succeed is to learn to co-operate with other farmers and to co-operate with the city man. He said we must get together in the country, and the grange is the organization that will help us accomplish this. Then we must realize that we must get to know the city man, to understand him and to win his respect and co-operation. Co-operation is what the grange stands for, and until the farmer realizes this and practices it he will never become the power in the community he is meant to be. The speaker also deplored the fact that the people of the country were rushing to the city to enter factories. "The country needs you and needs you now as never before and it offers you all kinds of opportunities," he declared. Then, too, Mr. Ketcham stated that the grange is valuable as a social asset and because of this it should be made the community center. He referred to the work of the lecturer of the subordinate grange, and said that this was the educational part of the grange and offered splendid training to the girls and boys. Mr. Ketchum closed with the plea that the people of the country stand by the grange and for the things it stands for; help build it up and make it a force for good in the community.

The address of State Master McSparran on the "War", was said by many to have been one of the finest talks on the present situation ever heard. He began by discussing the awfulness of this conflict, declaring that the boys sent to the front were not being given a fair chance. It is not the kind of a war, he said, where boys can buckle on a sword and go forth and fight fairly. Instead they are forced to fight all the deadly things known to science: Suffocating gases, deadly bombs are hurled at them, and everything that kills and maims.

Mr. McSparran referred to the liquor question. He said that he felt sorry for the congressmen; that he believed they were willing to do the best thing, only they did not know what to do. He urged the grangers to write to their congressman and ask him to vote against liquor; to urge that it be put down now and forever.

The subject of Y. M. C. A. work was touched upon by the speaker. Mr. McSparran told how this Christian organization was trying to combat the many temptations which were thrown in the way of the boys away from home and home influences. He referred to the many wrecks already made thru evil forces, and declared that the Government and the Y. M. C. A. were determined that the boys from our American homes shall be spared this experience. If you are asked for money to help with this work, don't give twenty-five or fifty cents, be liberal and give a five-dollar bill, a ten-dollar bill and if you can afford it give them a hundred dollars, he said. He closed by declaring that our country did not want to get into this awful war. We did everything possible to keep out. People pleaded that we stay out, but there seemed no way. Now we are in the war to fight for liberty and freedom, and to preserve our own liberty, and it is a fight to the finish. Let us go at it with a hearty good will and if the war lasts three or four years we will see results we never dreamed of, the speaker prophesied.

The subject of food conservation was presented and the women circulated cards, asking the rural women to sign them, and join in Mr. Hoover's "second line of defense". At the short business meeting, Mr. Decker, Master of the County Grange, appointed Mr. Frank Sholder chairman of the reception committee, Mr. O. A. Artley chairman of the program committee and Miss Kate Fager general secretary. It was announced that further plans for the convention would be made at the Pomona meeting in September.—D. D.

Upper Bucks County, Pa. — Pomona No. 50 last met at Chalfont. The program was very entertaining and instructive. The first question was "Shall we have plants and flowers in the home this winter; what shall they be and how shall we care for them?" and was very ably answered by Mrs. Wm. Ackerman, of Richland.

N. E. Garber, the County Agent, was called on to tell how we can improve our farms in Upper Bucks County. He said we should keep good cattle, use lime, have the ground thoroly drained, use fertilizer and thoroly cultivate our soil.

FARMERS' PICNIC

The twelfth annual farmers' picnic under the management of the Richland Grange was held in LuLu Park, Quakertown, September 7 and 8. Friday was a fine day and the committee in charge was busy entering and arranging exhibits until one o'clock, when the judges began their work. There were some fine specimens of vegetables, baked articles, fancy work, quilts, coverlets, and canned goods. Quite a few of the business people of the vicinity were there advertising their goods. There was fair promise for a big day on Saturday, but the weather interfered with a heavy downpour of rain until noon, after which quite a few people turned out. Everyone was disappointed not to be able to see the fine display of horses, cattle, ponies, chickens, etc., that are usually there. E. B. Dorsett, of Mansfield, spoke on Friday afternoon and Dr. J. M. Rosenberger, of Wycombe, on Saturday afternoon. Both had very good advice to give the farmers. Mrs. Byron Thomas of Quakertown, one of the committee of the Department of Food Conservation and Home Economics of the Bucks County Division of the Council of National Defense, had a tent in which she displayed bread, biscuits and cakes baked from wheat substitutes to show housewives how they may conserve wheat flour. Soybean flour was shown as was the bread baked from it.—M. J.

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College Girls' Patriotic Farm

Bryn Mawr Girls Farm a 20-Acre Garden

By ARTHUR D. CROMWELL

Educators have been interested in the question: What can we do with women on the land? Farmers have been more interested in how to use town boys and girls. Hence it was with much interest and not without some misgivings that the writer agreed to supervise the Bryn Mawr College girls on their 20-acre garden on the P. M. Sharpless Estate, near West Chester, Pa. About 20 girls were sent in relays of two weeks, but at no time have more than one-third changed any one day and some have stayed two or three months. The girls are strong, young, thinking, college women. They come from our better homes. Ex-President Taft's daughter, who is the new dean of Bryn Mawr College, did her bit during the hottest days of August. Professor Taussig, our great tariff expert, sent a daughter who was our champion stoker for the canner. The young women came from Wisconsin, Nebraska, Alabama, Massachusetts, New York and other states, but of course more came from Pennsylvania than from any other single state. The girls dressed in khaki bloomers and did all kinds of work without asking favors of any kind. They boarded in West Chester and went back and forth to their field in their college truck, which they call their old "Henry."

The soil is a field that had been rented by a nursery company and for three years grew roses—a good reputation for favorable associations by the girls. When Mr. Sharpless took charge he had the field well manured and limed and seeded to alfalfa. It was in alfalfa for two years and at the time of plowing, the alfalfa and timothy stood nearly a foot high. About 700 pounds of a mixed fertilizer were used to the acre.

Not being sure how much the girls would do, we decided to plant all rows 36 inches apart. The girls did doubly as much as we expected, and hence many of the rows were replanted or had vegetables transplanted between them, making the rows 18 inches apart. We bought hand hoes and five wheel hoes. Running the wheel hoes was so popular that we made the rule that no girl should run a wheel hoe more than one hour. Then she was to change with some one who was doing hand hoeing. The girls worked from seven to ten hours per day, but regularly aimed to begin at seven and quit at four. From work they went to the Sharpless bathing pond, had a swim, and then went to their rooms and prepared for their evening meal. Their obedience, their unfailing good nature, their willingness to do the hardest kind of work, have surprised all who have been near them.

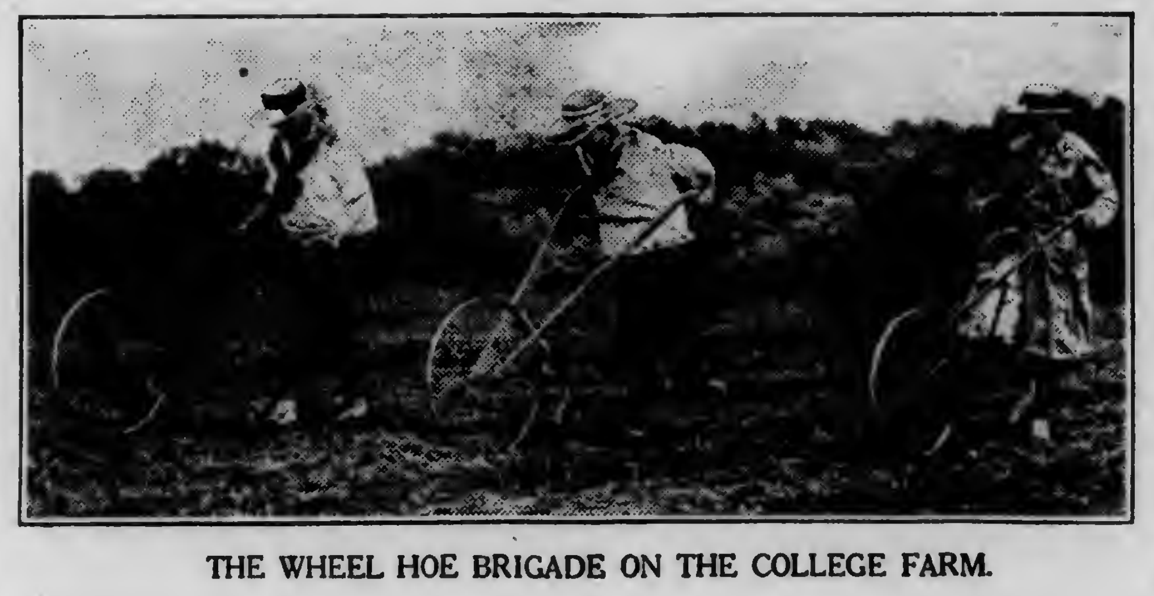
The writer was of the opinion that in order to use town boys or girls, we should have to satisfy their highly developed taste for diversion, and also give them work with simple hand tools or machines rather than send them one by one to a field to work with horses and with highly specialized and complex machines. This opinion is deepened into conviction from the study made of the Bryn Mawr College girls and the experiences of farmers who have been trying to use town boys and girls. They are good help for the gardners, the nurserymen and the fruit growers, but they are poor help for the grain or stock farmers.

The Bryn Mawr girls have grown a beautiful garden. They have kept the weeds under control. Weeds have been in the main killed when they were at their weakest stage. The girls have about 4 acres of potatoes that had it not been for 22 days of drouth in August promised to yield as well as any in the county. More beautiful stems and leaves were not grown in the county and in spite of the drouth there are many big, first-class potatoes. But the yield was cut seriously by the drouth. The girls have grown about four acres of corn, three of beans, about 4,500 tomato plants, 6,000 cabbages, 4,000 celery plants, many beets, carrots, onions, salsify, endive, chard, etc.

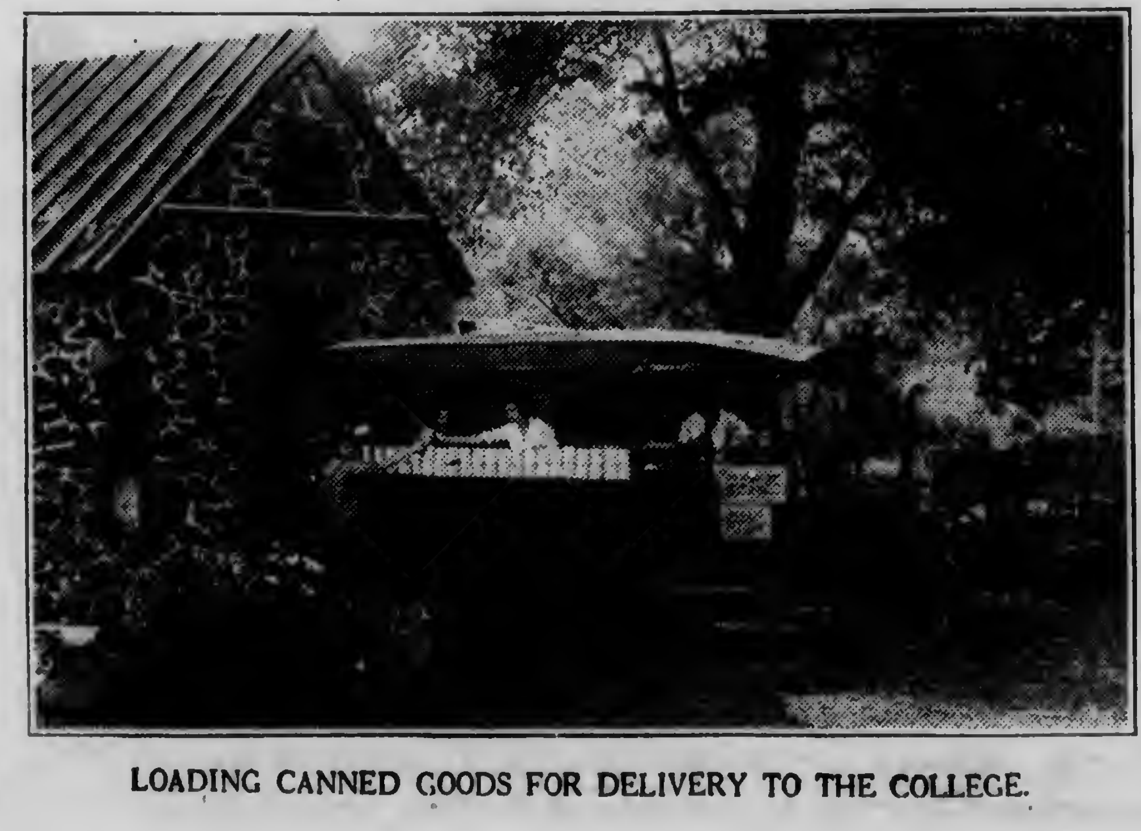
The girls helped build a cannery in which they have canned 400 cans of sweet corn in a day and in which they hope to be able to can 1,000 cans of tomatoes in a day. They have canned up to the last of August about 10,000 quarts in glass and tin. The canned goods are taken as fast as canned to the College for winter consumption. We secured a car of 47,000 tin cans. A boy's camp nearby took 20,000, leaving the Bryn Mawr girls 27,000 tin cans which they hope to fill.

Why do the girls do the dirty, hard work without complaint? They work like men. They do the heaviest kind of lifting. They helped cement, lay roofing, dig, hoe and plant. Why were they not at some fashionable watering place? A single incident must suffice to illustrate, altho many similar ones could be given. The girls are thinking young women who see a little more clearly than average people that we are in a great war; that we have much to do and perhaps many privations and hardships to bear. One day the mail was brought out to the field. A little lady sat down by a tree, read her letter, wiped something from her eyes and went vigorously at work, whacking the weeds in a row by herself. I asked the woman who had noticed the incident what had happened. "A lover is training at Plattsburg," was the answer.

Some of the girls have told me that their folks think them foolish. Some think they are crazy. But they are not. They tell me that they wish to do their part. Someone, somewhere, is to starve to death for the food that each of us fail to produce, providing we have a chance to produce food and do not. Someone is to starve for the food that we fail to conserve. People are starving, and someone is to starve for what we eat when we could as well have eaten something like fresh garden vegetables that could not be shipped. What the war means is coming home to us in time. The Bryn Mawr girls have had the vision to see a little farther into the future and they are to be congratulated on having achieved the consciousness that they have done their best to produce and to conserve as much as they will eat. Their garden has attracted many visitors and it is pronounced the best garden grown by organized women in America.


THE WHEEL HOE BRIGADE ON THE COLLEGE FARM.

BRYN MAWR COLLEGE GARDEN SHOWING BEAN, TOMATO & CABBAGE PLOTS.


LOADING CANNED GOODS FOR DELIVERY TO THE COLLEGE.

Selecting Meat Substitutes

Fish and Vegetable Dishes that Satisfy

Sometimes false impressions can best be corrected by taking specific cases and pointing out and comparing. This is what we shall do with the following list of very good recipes submitted to us recently under the heading, "Good Meat Substitutes". Very many, we may say most, people have not concerned themselves much up to our present period of need for national food conservation with the nature of food constituents and just what they do for our bodies. But now that it is becoming a vital need for us all to know a little about the simple principles of food chemistry in order to use food economically and effectively, we want to be rightly advised.

For example, if we need food for cell or tissue making, we must know what class of foods furnish these food elements most liberally. About one-fourth of the daily food requirements of the average adult farmer and farm woman should be these cell or muscle tissue repair food elements. They are called proteins. Growing children need more. Sometimes, to make it plainer, the foods that contain them most liberally are called meat substitutes, because lean meat is nearly all made up of proteins. Pure fats contain no protein, for fats make food elements by themselves. Pure refined lard, for example, has the protein all taken out of it. Butter usually shows a trace of protein, green vegetables only a little more; cereal grains range from around 9 percent in corn to 11 percent in wheat and 16 percent in oats; dry legumes, particularly soybeans, are much richer in protein than any other vegetable food. Most nuts, except chestnuts, are quite rich in protein.

Besides for tissue making and repair, we must get from food heat and energy and water and mineral salts for regulating body functioning. Proteins will make heat and energy, but because they occur chiefly in the more expensive foods, it is not good economy to use them for such purpose. Better get heat and energy from the foods containing starches and sugars, i.e., vegetables, cereals and fruits.

Therefore, what are really meat substitutes? You can see that they must be foods that supply what protein the lean of beef would supply, and these would be, of course, the lean of any other kind of meat, including fish; also eggs, the curd of milk, dry legumes, nuts rich in protein. Wheat flour, even the fine patent, contains some protein, but not enough to make up the protein requirement of the body without some foods richer in protein.

Following are the recipes submitted as "Good Meat Substitutes". Let us go over them now and see just how they rank as real meat substitutes. The sender evidently had in mind "just something to eat" instead of any actual substitute value in quite a number of them. We have classified them according to their meat-substituting value.—The Editor.

Practically Equivalent Substitutes

Baked Fish.—Wipe with a damp cloth, sprinkle with salt, stuff and sew and tie together. The Stuffing: ½ cup cracker crumbs, ½ cup stale bread crumbs, ¼ cup melted butter, ¼ tablespoon salt, ⅛ tablespoon pepper, ½ cup hot water. Bake in a moderate oven. (Editor's Note.—Fish as a cell-builder is equivalent to any other lean meat. It is the lean of any meat that constitutes the cell-making material.)

Escalloped Fish.—Separate in flakes the left-over fish, arrange on a buttered platter with enough white sauce to well moisten. Cover with ½ cup rolled cracker crumbs moistened with 2 tablespoons butter melted. Reheat in oven.

Mackerel Balls.—You need some salt mackerel and cold mashed potatoes, 2 beaten eggs, a pinch of pepper and 1 tablespoon of butter. Soak the fish over night; in the morning pour some boiling water over it, pick it to pieces carefully, removing the bones; add an equal quantity of cold mashed potato, the beaten eggs and pepper, and shape into balls the size of an egg. Put the butter in the frying pan; when hot put in the balls and fry brown on each side. Serve hot. (Here the eggs and the fish supply an abundance of protein).

Fish Chowder.—You will need 3 lbs. chopped fish and 3 potatoes. Put ¼ lb. bacon into a frying pan with one onion sliced, and fry a light brown. Into a saucepan put a layer of peeled and sliced potatoes, a layer of fish, then a few slices of the onions and bacon, with seasoning. Continue until all has been used, add 1 quart water, cover and let simmer 20 minutes without stirring. In a double boiler put 1 pint milk and break into it 6 water crackers; let it stand a few minutes, then add to the chowder. Let it boil up once and serve. (The fish, milk and the lean of the bacon afford a liberal amount of protein herein.)

Salmon Cutlets.—Pick over some salmon, mix with a white sauce, season and cool for an hour. Cut the paste which results into strips, mold into oval, chop-shaped pieces and crumb as usual, then dry again and fry a golden brown in deep fat. Then a paper frill is stuck into each one to represent a chop bone. Lay on the hot plates, and add a spoonful of peas and one of potato for each serving.

Salmon Loaf.—Into a bowl put one can of salmon, mince fine with a fork, being careful to remove all skin and bone. Add 1 large tablespoon of butter and mix, then add 1 cup rolled cracker crumbs, 3 eggs well beaten, and lastly 2 cups milk. Put in buttered steamer and let steam one hour, then carefully turn out on a dish and surround with the following sauce: Put 1 tablespoon butter in saucepan, when melted, add 1 tablespoon flour, mix to smooth paste, add 1½ cups milk, then enough catsup to give it a salmon color. Pour sauce around loaf, and garnish on top with a sprig of parsley. Serve with any vegetable. (The fish, eggs and liberal milk quantity make this dish very rich in protein.)

Clam Fritters.—Beat 2 eggs until light, add ⅓ cup milk, 1⅓ cups flour, sifted with 2 teaspoons baking powder. Chop one pint of clams, add ½ teaspoon salt, ¼ teaspoon paprika, and stir into the latter. Drop by spoonfuls into deep fat, and fry.

Home Storage of Vegetables.—Farmers' Bulletin No. 879. This bulletin may be had by addressing a request to the Department of Agriculture, Washington, D. C. The pamphlet treats of practical, home-made equipment for storing fruits and vegetables at home. Illustrated by numerous cuts; contains 22 pages.

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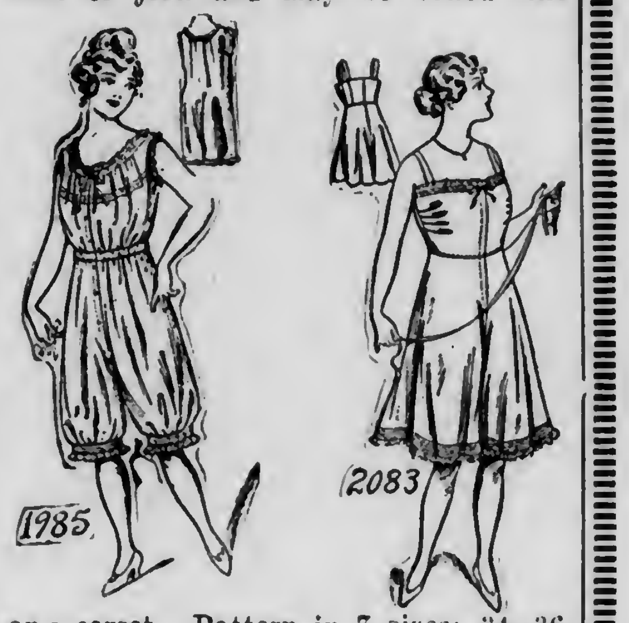
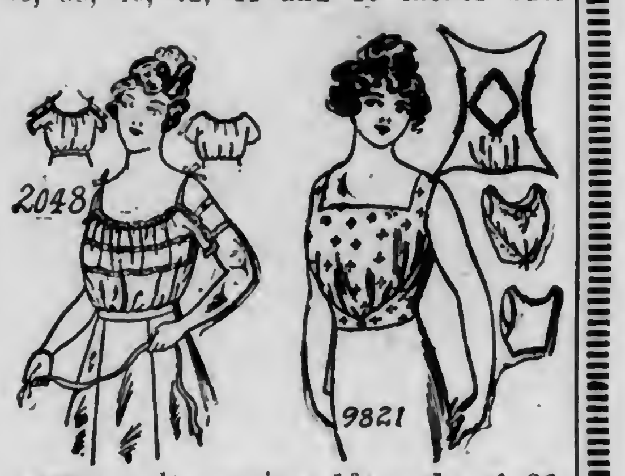
Some Good Muslin Underwear Designs

1985. — Ladies' Combination Corset Cover and Drawers.—The drawers portion may be finished in knickerbocker or straight effect. Pattern in 4 sizes: 34, 38, 42 and 46 inches bust measure. It requires 3¼ yards of 36-inch material for a 38-inch size. Price, 10 cents.

2083. — Combination Brassiere and Drawers.—The brassiere may be of drill or jean and may be boned like any corset. Pattern in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It requires 3½ yards of 36-inch material for a 36-inch size. Price, 10 cents.

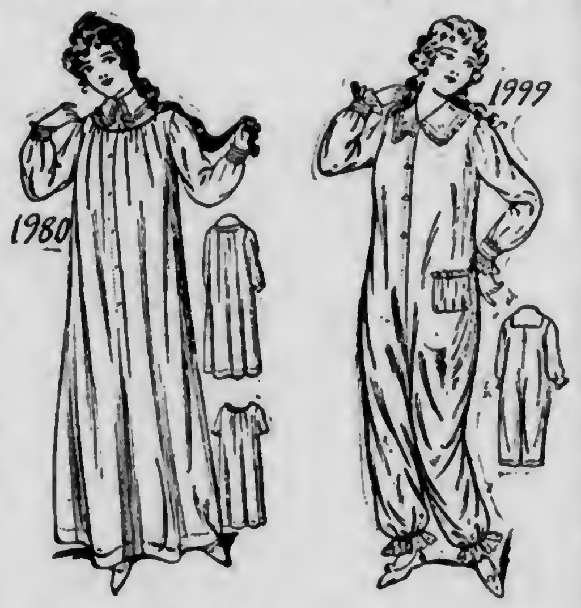


2048.—Ladies' Camisole.—The illustration shows it developed in either of two styles. Pattern is in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It requires 1⅝ yards of 36-inch material for a 38-inch size. Price, 10 cents.



9821.—Ladies' One-Piece Corset Cover, in Round, Square or "V" Neck.—Suitable for "all over" embroidery, for lawn, batiste, cambric, nainsook, crepe or silk. Very simple, and easy to make. Pattern is in 6 sizes: 32, 34, 36, 38, 40 and 42 inches bust measure. It requires 1⅝ yards of 36-inch material for a medium size. Price, 10 cents.

1980.—Night Dress in High or Low Neck. The yoke and collar portions may be omitted, and the gown finished with short sleeves and low, round neck. Patern in 3 sizes for misses: 16, 18 and 20 years; and in 6 sizes for ladies: 36, 38, 40, 42, 44 and 46 inches bust measure. It will require 5⅝ yards of 36-inch material for an 18 year size, or 5⅝ yards for a 38-inch size. Price, 10 cents.



1999.—Ladies' One-Piece Pajamas.—The leg portions may be gathered or finished with the lower edges unconfined. The sleeve is full and finished with a narrow cuff at the wrist. Pattern in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 6 yards of 36-inch material for a 38-inch size. Price, 10 cents.

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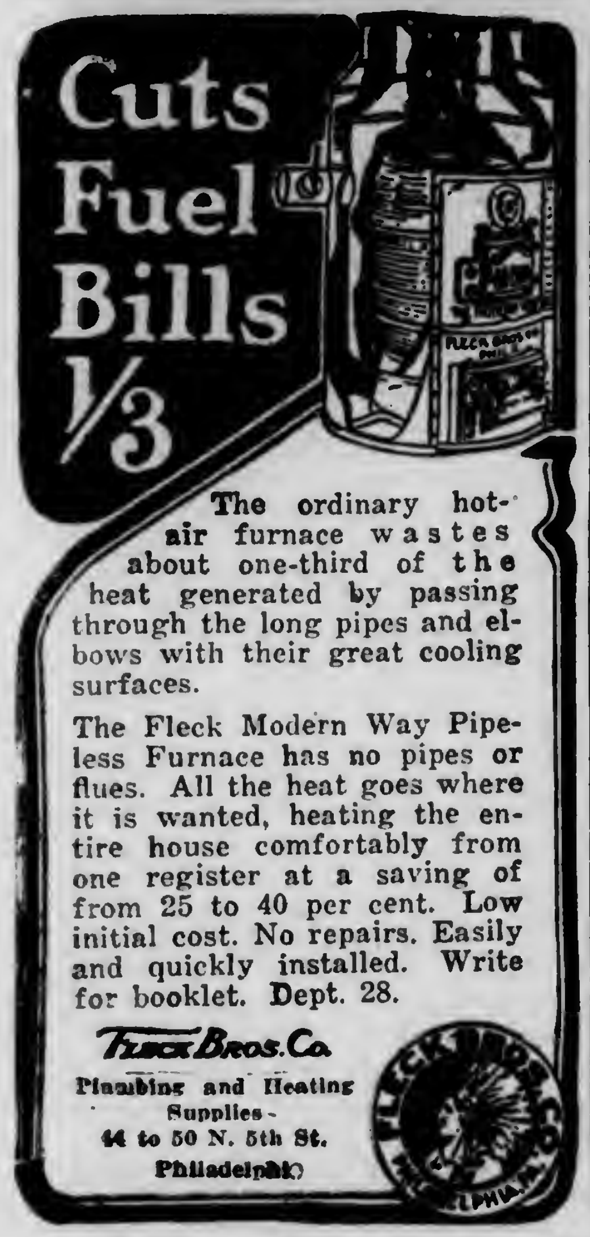
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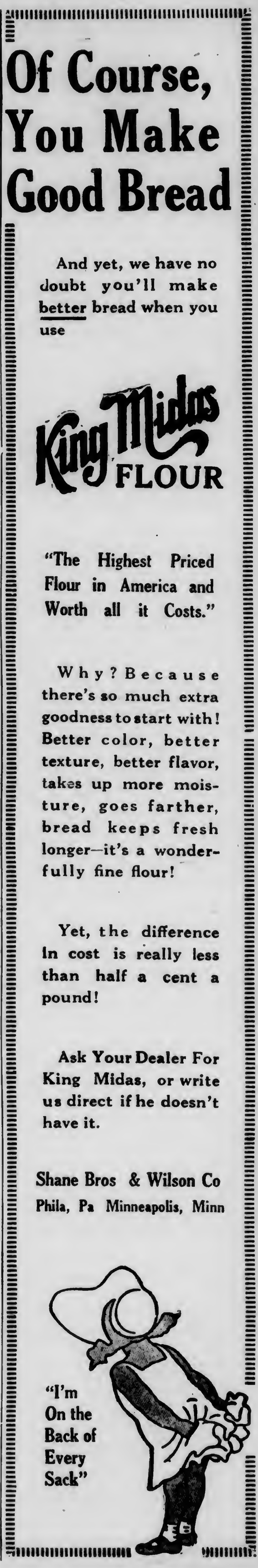
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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Oct. 1, 1917.

Supplies of practically all varieties of fruits and vegetables continue about normal for the season. Receipts of potatoes show a further increase over last week's liberal supplies and on Monday there was a total of 85 cars on the track in the Pennsylvania and the Reading Railway delivery yards, besides a number of cars of sack potatoes in the market house depot, and the normal supplies being hauled in by nearby Jersey farmers. There is, however, a good steady demand, and all fancy stock has been moving out freely and prices are averaging slightly higher than last week. Only a comparative few are coming from the Eastern Shore and these are selling from $3.50 to $3.75 per barrel for best stock, while culls and No. 2's bring from $1.75 to $2.25 per barrel. New Jersey Giants are selling readily at $1.15 to $1.20 per bushel at the yards, while in 150-lb. sacks they sell from $3 to $3.15. Pennsylvania round stock, which always has the preference in this market, brought from $1.30 to $1.35 generally, with some strictly fancy a trifle higher. New Jersey ⅝-bushel baskets are bringing from 75 to 85 cents for best stock, with No. 2's from 40 to 50 cents.

Sweet potatoes are now arriving quite freely and the market shows another decline. Most Eastern Shore stock is being sold around $2.75 per barrel with a very few extra fancy up to $3. Some of the poorly graded and slack packed stock sold as low as $2.25 per barrel. No. 2's sweet potatoes are doing better than last week; the price ranging from $1.70 to $2. Offerings of New Jersey sweet potatoes are getting more liberal daily and the market has been gradually easing off until today, when average No. 1's sold at 70 to 75 cents per basket, with fancy at 80 cents. No. 2's are ruling about steady at 40 to 45 cents per basket.

Vegetables

Very little change is to be noted in the prices of both green and wax beans, except that the quality is showing a wider range, consequently prices show a wider range, best stock bringing 75 cents per ⅝-bushel basket, while poor sold as low as 40 cents for green beans. Wax beans ranged from 50 to 85 cents. Some beans from New York State in bushel baskets are appearing on the market and sell from 85 cents to $1. Lima beans are not quite as high as last week and are now selling from $1 to $1.25 per ⅝-bushel basket. Bunch beets continue to meet with a steady demand and the market rules firm at $2 to $3 per 100 bunches. Carrots are selling from $1.50 to $2.50 per 100 bunches and in Jersey baskets at 65 to 85 cents. Quite a few are now coming from New York State, and these are selling from $1.20 to $1.50 per cwt. Cabbage is in much heavier supply than last week, there being 41 cars of New York State stock offered on this market Monday. The movement was quite free, however, at a slight decline in prices; best stock now selling at $22 to $23 per ton, with poor at $20 to $21. Nearby cabbage ranged from 35 to 50 cents per ⅝-bushel basket, as to quality.

Cauliflower has been selling from $3 to $3.50 per crate of about one dozen heads. These prices are not expected to hold, however, as more liberal receipts are expected almost daily. Celery continues active, fancy selling up to 80 cents per bunch with other grades ranging from 35 cents up. New York State cucumbers sold all the way from $1.50 to $2.25 per bushel. Egg plants snow another advance in price and are now in good demand at 50 to 75 cents per ⅝-bushel basket. Lettuce has been in more free supply these last few days and prices are much lower than last week. The quality that brought $2.50 per box last week only brought $1.75 this week, while other grades sold from $1 up. Hampers sold at 50 cents to $1 this week as against 75 cents to $1.50 a week ago. Onions are also much lower than last week, best California selling at $3.15 to $3.25 per 100-lb. sack, while Ohio, Indiana, New Jersey, New York and Massachusetts stock sold from $2.50 to $2.75, these prices being about 50 cents lower than last week. Good okra is scarce and high, and if small size readily bring $3 per hamper. Parsley is plentiful and shows no change, sales being made at 1 to 1½ cents per bunch.

Peppers did not maintain their strong tone and advance of last week and green are now selling at 40 to 60 cents per basket and red at 70 to 85 cents per basket. Squash is doing better and while some rather poor stock sold at 20 cents per basket, strictly fancy sold at 40 to 45 cents per basket. Spinach is in fair demand at 50 to 75 cents per bushel hamper. Tomatoes show very little if any change over last week and while fancy sell readily at $1.25 per basket or more. The bulk of the offerings are mostly poor quality and average sales range from 75 cents to $1. Tunips show a decline over last week's prices, whites now selling at 45 to 50 cents a basket and Yellows at 50 to 65 cents.

Fruits

The apple market is much lower. Supplies are more liberal and demand not very active. On Monday there were 18 cars of apples offered to the trade at the market house depot, and the demand was hardly sufficient to clean them up promptly. While Virginia, West Virginia, Pennsylvania and New Jersey continue to supply the bulk of the arrivals at this time, supplies from New York State are steadily increasing. Such varieties as Wealthy, Gravenstein, Smokehouse, Blush, Grimes Golden, N. W. Greenings, Bonum, Alexander, Twenty-Ounce, and Pippins sold all the way from $3 to $5 per barrel as to quality, while Jonathans sold from $4 to $6.50, and other varieties range from $2.50 to $4.50. Pears seem to be doing quite a little better. Bartletts are selling up to $2.65 per bushel, and Seckels from $2 to $3 per bushel and in barrels $6 to $8.50. New York State peaches are doing a little better than last week as the quality is not so irregular. Elbertas sold at $1.50 to $1.75 per bushel and 75 to 90 cents per basket. Pennsylvania Smocks sold from $1.25 to $1.50 per bushel.

Grapes continue very strong and active, with prices showing a slight advance, 4 pound or pony basket sells at 16 to 18 cents and jumbo baskets at 65 to 70 cents. Plums continue in light supply and bring good prices. Prunes range from 40 to 42 cents; Reine Claude, 60 cents and Damson 50c per 4-quart basket. Cranberries appear to be meeting a better demand altho prices show no change. Sales range all the way from $2.25 to $3 per crate. Western cantaloupes are doing better than they did last week with best now selling at $1.75 to $2.25 per crate containing 45 melons. Some southern chestnuts have made their appearance on the market. While the first brought $15 per bushel, these prices did not hold long and sales are now being made from $12 to $13 per bushel.

Poultry

There is practically no change to be noted in the live poultry market. Supplies have been light and there has been a good inquiry for all strictly fancy poultry of all kinds. Fowls are selling generally at 23 to 27 cents with strictly fancy bringing a premium over these prices. Old roosters rule steady at 19 to 20 cents; spring chickens not Leghorns, weighing 1½ to 2 pounds each rule firm at 26 to 28 cents, while small sizes and Leghorns move slowly at 23 to 25 cents. There is a fair demand for young ducks at 22 to 24 cents. A few turkeys bring 22 to 26 cents. There is a fairly good demand for guineas at 65 to 75 cents per pair, while old bring 45 to 50 cents. Pigeons are selling from 20 to 35 cents per pair.

Dressed poultry continues to rule very firm under small supplies and an active demand. Fancy fowl sell readily from 29 to 32 cents with poor and small sizes at 27 to 28 cents. Fancy new Jersey broiling chickens sell readily at 35 to 36 cents, while others bring from 26 to 33 cents. Roasting chickens are also in good demand at 28 to 31 cents. A few Western turkeys sell at 24 to 25 cents. Spring ducks are scarce and the market rules firm at 25 to 27 cents.

Eggs

There are very few strictly fancy fresh laid eggs coming to the market at this time and such rules very firm with demand greater than the supplies. Medium grades, however, and stock more or less unattractive, are fairly liberal and this class is dull and market weak. Pennsylvania and other nearby firsts are quotable at 42 cents, current receipts at 41 cents and seconds at 37½ cents. Western extra firsts bring 42 cents; firsts, 41 cents and seconds, 37½ cents. Southern eggs show no change and sell from 39 to 40 cents as to quality.

YORK PRODUCE MARKET

York, Pa., Oct. 1, 1917.

There was a falling off in attendance at the various markets this week, possibly due to the rush of work on the farms. There is also less variety in the display of produce. Prices were unchanged, except where there was a slight stiffening in the demand. Eggs are held at 45@46c but the buying is light. Potatoes are moving slowly. Many inquiries but the buyers say the papers give an extra large surplus, so the price must come down this fall and they will wait. Apples are selling well at jobbing prices out of the orchards; prices ranging from $3 to $4 f.o.b. orchards for all varieties.

Eggs.—44@46c per dozen.

Butter. — Country, 42@48c; separator, 45@50c lb. Milk, 10c quart.

Poultry.—Hens, 20c lb; springers, 20@22c; dressed, 50c@$1.50 each.

Vegetables.—Potatoes, 12@18c ½ pk; $1.15@1.25 per bushel. Cabbage, 3@8c head. Lettuce, 4@6c head. Beets, 5c bunch. Onions, 5c bunch; 10c box; 20@25c ½ pk. Radishes, 6c bunch. Lima beans, 20@30c qt. Soup beans, 35c qt. Celery, 5@8c stalk. Tomatoes, 10@15c box; 25@30c ½ pk. Turnips, 15@20c ½ pk. Corn, 20@30c doz. Eggplants, 3@8c each.

Fruit.—Apples, 12@25c ½ pk; 10c box. Peaches, 10c box; 60@$1 per basket. Cantaloupes, 2@8c each. Watermelons, 25@35c each. Pears, 10@15c ½ pk. Grapes, 5c bx; 15c ½ pk.

Retail Grain Market.—Wheat, $2.15; corn, $1.90; oats, 90c; rye, $1.65; bran, $2 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $2.05; corn, $1.90; oats, 70c; rye, $1.25; bran, $38 ton; middlings, $58 ton.

NEW YORK PRODUCE

New York City, Oct. 1, 1917.

Butter makes gain of 1 to 2 cents over last week and the tone of cheese market is firm. Fresh eggs are active, but storage goods dull and weak. The outlook in poultry market favors lower prices. Fruit selling well. Potatoes firmer.

Butter.—Creamery, extras (92 score), per pound, 46c; higher score, 46½@47c; thirds to firsts, 41@45½c; state dairy, 39@45c; ladles, 37@43c.

Cheese. — Fresh colored specials, 26¼@26½c; white, 24¼@26½c; undergrades, 13@20½c.

Eggs. — Fresh gathered extras, 45@46c; extra firsts, 43@44c; nearby white, fine to fancy, 58@62; ordinary to good, 45@47c; browns, 48@50c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 36@38c; old roosters, 22c; squabs, $2.00@5.50 per dozen. Spring ducks, per lb., 24@26c; turkeys, fresh killed, 25@37c.

Live Poultry.—Fowls, fancy, heavy, 31c lb; do., average run, 30c; do., small or poor, 25c; chickens, fancy, heavy, 30c; do., average run, heavy, 25c; do., average run, Leghorn, 29c; do., small or poor, 22@23c; old roosters, 19@20c.

Vegetables and Greens.—Beans, per bu. basket, $1@1.75. Beets, per bbl., $1.50@2.50. Onions, per 100-lb. bag, $2.00@3.00. Potatoes, Jersey, $2.90@4 per bbl. Carrots, $1.50@1.75 per bbl. Corn, per 100, $1@3, cucumbers, $1.00@2.00 basket; peppers, per bbl., $2.50@4.00; tomatoes, Jersey, 50c@$1.75 per box.

Apples.—Wealthy, $3@6 per barrel; Duchess, $3@5; Gravenstein, $3@5.50; Summer Pippin, $2.50@5.50 ordinary sorts, $2@4.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., Oct. 1, 1917.

The receipts of cattle for today's market were 335 cars, as compared with 245 cars last Monday and 258 cars the corresponding Monday last year. This extraordinary supply came from Virginia, 164 cars; Chicago, 75; Buffalo, 18; St. Paul, 36; Pennsylvania, 10; New York, 6; Pittsburgh, 4; Maryland, 4; Cincinnati, 5; Indianapolis, 5; Detroit, 6; Ohio, 2. Fully 40 cars more, perhaps 60, will arrive between this and Wednesday, and the week's receipts promise to total close to 400 cars, which number will be far in excess of the heaviest run ever before received in the history of the local trade.

Last year, when the addition to the yards was built, the Stock Yard Company felt it had sufficient equipment to take care of any business that might come to them, but today the fallacy of the notion was made manifest. There wasn't nearly enough pens to house and feed the cattle that arrived. Each year the influence of the Lancaster market seems to be broadening. New faces are seen among the buyers each week and when they start to come here, they invariably keep acoming. Again, Eastern packing houses have taken notice of Lancaster, and several of them have resident buyers who notify the home office whenever a big run of cattle is scheduled and receive orders to make shipment.

All of the good weight fat cattle on today's market were purchased for the account of a large New York packing house, and had more of the same kind been on sale, they would have taken them. Their purchase under the circumstances were 10 cars, at prices ranging from $11.70 to $13.10.

The extraordinary supply of butcher cattle naturally gave buyers their own way, except for the real top-notch kind of steers and heifers. This grade of goods ruled pretty nearly steady. The best beef steers on sale were a load of fat, good quality, well-fleshed Virginia's that weighed 1,200 lbs. and the price was $13.15. Another carload, not so fine in quality but equally fat, weighed 1225 lbs. and sold at $12.40. Another of the same grade weighed 1150 and sold at $12.10. Still another weighed 1215 and sold at $12. One carload of long yearlings weighed 992 and sold at $11.90. Another weighed 950 and sold at $11.50.

A very long list of sales at 10 to 11 cents was made of a fair grade of butcher steers weighing 900 to 1050 lbs. Fully 40 cars of heifers weighing 750 to 850 lbs. were made at prices ranging from $8.50 to $9.25, and a long string of sales of a plain kind of Virginia heifers for butchers' uses weighing 600 to 700 lbs. was made at $6.50 to $7.50. A few bunches of extra good fat cows, weighing 1100 lbs., sold at 9 cents per lb. The kind of cows ordinarily called good, weighing 1000 to 1100 lbs., sold at 8¼ to 8½ cents. Salesmen who had butcher steers and butcher heifers to sell, quoted the market steady to a shade lower on the very best steers and heifers, but strong 25 cents lower on all cattle for slaughtering purposes below the "top" grades.

The feeder market was well supplied and the quality of the sales was decidedly the best of the season. The real good ones sold as high as ever. The "top" price was realized for Canadian feeders. One bunch of 16 head averaging 950 lbs. was taken by a Lancaster County feeder at 12 cents. Another bunch of 16 head weighing 1050 lbs. was taken by a Berks County beef maker at 12 cents per lb. Still another of 20 head went to Manor Township at $10.25. Another of 20 head weighing 850 went to a Hempfield Township farmer at $9.75, and another of 20 head averaging 800 lbs. went into the same neighborhood at $9.50. One carload of Virginia steers that were shipped here to sell for killers, weighed 1000 lbs., had very good quality, went to Dauphin County, at $11.50. Another carload of very good Virginia steers that had good quality, weighed 1120 and were purchased at $11.25. One bunch of extra good Durhams that came from Chicago weighed 860 and sold at 11 cents. Another of strictly good Polled Angus averaging 1015 lbs. sold at 12 cents. A bunch of 33 head of good "White Faces" averaging 910 lbs. was purchased at $10.75. A Berks County farmer took a bunch of 20 head of a pretty good kind of black cattle weighing 920, at $10.30. A very large number of sales of a useful kind of feeders, weighing 850 to 900 lbs., were made to Lancaster County farmers at prices ranging from $9.25 to $9.75. Berks County and Lebanon County farmers also took many of the same kind at the same prices. There was a lot of trading and what could be called a fair class of feeders, weighing 750 to 800 lbs. at $8.50 to $9. The kind that sold below 8 cents per lb. couldn't boast of very much quality.

More cattle could have been sold had it not been for the congested condition resulting from the extraordinary supply, coupled with the lateness of arrival of many shipments. Fully 100 cars of cattle that should have been here yesterday morning did not arrive until about daybreak this morning, and had to be yarded in parts of the yard remote from the salesmen's regular pens; under the circumstances, these cattle could not be gotten at, and as a result were not sold.

Of all the raw material convertible into food stuffs feeder cattle as compared with beef cattle are the most out of proportion. Never in the history of the cattle business has there been such a wide spread between feeders and beef cattle as at the present time, and it looks like a sure thing that farmers who buy feeders at the present prices will make money on them. The world shortage of meat animals according to the most conservative estimates is 114,000,000 head. This shortage in supply cannot under the most favorable circumstances be half replenished within the next four years. Whether the war continues for three years, or for three months, will not affect high prices for beef cattle. A few weeks ago in conversation with one of the greatest packers and exporters of beef in the United States, he said to the writer, "If we could get enough boats to carry all the beef abroad for which we now have demand, the price of beef cattle in the United States would be from 3 to 4 cents per lb. higher. Should the war cease, the people in lands across the sea will have to eat to live, and with the submarine menace removed, ocean freights will be lower, insurance will be lower, more boats with refrigerator equipment will be available for transportation, and the exportation of American meat foods will be multiplied instead of decreased." This sounded like pretty good logic, and I repeat it for the benefit of all who may be interested. "Think it over."

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Oct. 1, 1917.

Baled Hay and Straw.—Receipts, 192 tons of hay and 1 car of straw. Wholesale trade as usual on the last day of the week was quiet. Offerings, however, were light and prices ruled firm.

Timothy hay (according to location)—No. 1 large bales, $22@22.50; No. 1 small bales, $22@22.50; No. 2, $20@21; No. 3, $18@19. Clover mixed hay—Light mixed, $20@21; No. 1 do., $19@19.50; No. 2 do., $17@18.

Straw.—No. 1 straight rye, $14@14.50; No. 2 do., $13@13.50; No. 1 tangled rye, $12.50@13; No. 2 do., $11.50@12; No. 1 wheat straw, $11.50@12; No. 2, do., $10.50@11; No. 1 oat straw, $11.50@12; No. 2, do., $10.50@11.

Note.—It is hard to determine the exact total of hay for the local trade coming to this market, as a considerable quantity of the arrivals is probably for export.

Bran.—The market was quiet but firm under light offerings. Quotations, car lots, including sacks:

— Soft winter bran, in 100-lb sacks, per ton, $37; spring bran, in 100-lb. sacks, per ton, $35@35.50.

Wheat.—No. 2 red, $2.26; No. 2 soft red, $2.21; No. 3, soft red, $2.21.

NEW YORK HAY AND GRAIN

New York City, Oct. 1, 1917.

Feed.—Prices were nominally unchanged thruout the list yesterday. For western grades the demand continued fair for spot goods and in view of the limited supplies prices are steady. However, for shipment, the town is decidedly easy and the prospects are for larger supplies, especially as the receipts of wheat are increasing, which will permit free grindings; the demand is only routine. City feed is holding steady in all positions. There is not much stock here and the inquiry is fair. Quoted: Western spring in 100-pound sacks, $35.50; standard middlings, $41.50; flour in 100-pound sacks, $51 to arrive; red dog to arrive in 100-pound sacks, $62.50; city feed bulk bran, $36; 100 pound sacks, $37; heavy feed, 100-pound sacks, $42; red dog, $66.50; flour, $65. Linseed oil meal, $54 per ton.

Hay and Straw.—There is some increase in the offerings at the Thirty-third Street shed, but asking prices are pretty well maintained on all grades. Supplies still light in Brooklyn.

Wheat.—No. 2 red, $2.25.

Corn.—No. 2 yellow, $2.15; No. 2 mixed, $2.14.

Oats.—No. 2 white, 66c; Standard, 65½@66c.

Rye.—$1.99.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Oct. 1, 1917.

Butter.—There was sufficient inquiry to absorb the limited offerings of fancy solid-packed creamery at the recent advance. The under-grades were pretty well cleaned up at inside figures. Fancy prints were scarce and firm, but unattractive qualities were quiet and somewhat irregular in value.

Western, fresh, solid-packed creamery, fancy specials, 47½c; extra, 45½@46½c; extra firsts, 44½c; firsts, 44c; seconds, 43c; nearby prints, fancy, 49c; average, extras, 47@48c; firsts, 45@46c; seconds, 43@44c; special fancy brands of prints were jobbing at 52@55c.

Cheese.—The market was quiet but steady under moderate offerings.

New York, full cream, fancy, June, 27c; specials higher; do., fresh made, best, 26¼@26½c; do., choice, 25½@26c; do., fair to good, 24½@25c.

ELGIN BUTTER MARKET

Elgin, Ill., Sept. 29, 1917.

Butter, 43½c; no sales; no offerings.

NEW YORK MILK MARKET

New York City, Oct. 1, 1917.

The dealers after considerable discussion have accepted the terms of the Dairymen's League for October and November. Inasmuch as the representatives of the Dairymen's League refused to adopt the suggestions that the loss in surplus be divided pro-rata among the producers and said that the closing of certain receiving stations would be preferable, it is expected that more than 100 receiving and shipping stations will be closed this month.

The distributors of bottled milk have raised the retail price of grade B to 14 cents and of grade A to 15 cents. Their point of view is presented by the statement made by the Borden Company: "The price of milk at the farm is again increased, effective October 1, 1917. It naturally follows that our selling prices must also be increased. The producers have named a price of $3.10 per cwt. for milk containing 3 percent butterfat, with an additional 4 cents for each one-tenth of one percent of butterfat. Judged by the fat content of milk purchased this month and the record of October milk of former years, the quality of the milk purchased by this Company in October will average at least 3.9 percent butterfat. The 9 points over 3 percent add 36 cents to the base price of $3.10, making a total cost $3.46 per cwt., or, approximately 7½ cents per quart. This is an increase of 1½ cents per quart over the present prices to the producer. This makes necessary an increase of at least 1½ cents per quart in our selling prices.

"We fear that in view of the present very large decrease in sales, this price increase will not be sufficient to cover the increased cost of milk and the greater fixed expense per unit resulting from decreased volume of business, and leave a profit of one-half cent per quart. However, in view of the present trying conditions under which we are all living, we have decided to defer any increase beyond the 1½ cents forced upon us, until such time as we have an opportunity to learn from our records and accounts of the extent to which the disposition of surplus milk and our decreased volume of sales under present prices have increased costs, as well as to observe the extent of any further decrease in sales following October 1st price adjustments."

League rates for October for grade B (barn score 55) to the producer in the 26-cent zone are $3.10 a cwt. for 3 percent milk; $3.34 or 7.1 cents per quart for 3.6 percent milk and $3.50 for 4 percent milk.

Receipts of milk and cream in 40-quart cans for week ending September 29 were as follows:

Railroad	Milk	Cream
Erie	41,696	1,569
Susquehanna	4,247	28
West Shore	11,420	1,095
Lackawanna	11,420	1,985
N. Y. Central (long haul) including Rutland	120,564	2,846
Ontario	36,799	2,381
Lehigh Valley	39,814	1,009
New Haven	3,794	5
Pennsylvania	10,890	450
Other sources	6,720	225
Totals	340,734	11,588
Same week last year	353,135	12,323

The Voice of the People

This department is reserved for use of our readers to discuss problems and matters of general farm interest. Write your views and comments briefly on any question of social, economic or educational importance and thus share them with others. Such articles should not exceed 200 or 300 words. Publication of such articles does not signify editorial endorsement or agreement.

THE SINGLE TAX AND FARM TENANTRY

"Father Penn," in a recent issue makes this pertinent statement: "How to provide money for capable, ambitious men who are starting into farming is a question which must be solved in some way, if farms are not to gradually drift into the hands of moneyed men to be farmed by tenants. The Farm Loan Banks are a step in the right direction, but they will not help the beginners who can pay but a small part of the purchase price and have nothing for equipment. It is at this point that single taxers get in their lever."

Father Penn offers as a solution the establishment of co-operative societies modeled on the European plan, but which he is careful to state will only solve the question "quite" satisfactorily. It seems to me that a solution is wanted which will be decisive, complete and permanent, and the single tax, which Father Penn casts aside with mere reference, is the one and only solution. Why does the moneyed man care to have farms drift into his hands? Despite all that is published in the city papers about the farmer rolling in unearned wealth, the pages of Pennsylvania Farmer and other farm journals are filled with the direct testimony of actual working farmers and breeders, who, as another writer in Pennsylvania Farmer implies, are "working 14 to 16 hours per day for their board and a pair of overalls occasionally."

It should be evident to any one that the moneyed interests are not striving to acquire land for the purpose of working it themselves. Fourteen to sixteen working hours per day with an occasional suit of overalls do not appeal to the average moneyed man. He can do better. What did Miller and Lux want with 14,000,000 acres of land in California and adjacent states? What did Wyerhauser want with his millions of acres of forest land? What does the Astor family want with the New York City land, on which the cost of all improvements are paid by the tenant? Why did certain railroad corporations require a government grant of fifty miles of land on each side of their railed road? Why does the "farmer," with a "farm" near a centre of population, find it more profitable to stop working, discard his overalls, and take up his residence in a high-class hotel or apartment house in the city than to spend fourteen or sixteen hours per day in "tickling the sod" of his farm?

We all know why the moneyed interests invest in land and it is unnecessary to go into detail, but it is absolutely necessary to solve the problem which disturbs Father Penn. Co-operative societies cannot solve the problem. They would only aggravate the already serious problem. The more efficiently such agencies are handled, and the more aid they are made to give to production, just to that extent will the owners of land advance the price of land to the farmer, who will do the actual work of the farm. The single tax will make it unprofitable to hold land, except to use it. It will make the farming industry the basic industry on which and from which all other industry will draw its sustenance and inspiration. It will establish justice in the distribution of land—"the gift of God to all the children of men"—as it will also free the hand of labor and the mind of enterprise from the blighting influences of dishonest taxation.

Any policy which helps to build up great estates and drive the working farmers into other occupations by making the essential element of land harder and harder to get, has always resulted in destroying the civilization in which it existed. The fact that our present conditions disturb Father Penn's mind (in his land with its hundreds of millions of acres of unused land) is a proof that history is about to repeat itself. The Nation is now calling upon its "best and bravest" to enlist in the defense of democracy. Why not a call for farmers and farm papers to unite and enlist to save this land from a landlord and tenant autocracy? —*Oliver McKnight.*

A POOR PLACE FOR A GOOD PLOW. WHERE IS YOURS?

THE SQUARE DEAL FOR FARMERS

Good for your editorial on the laborer and his hire. I commend to your attention the Rural New Yorker's last two numbers on farmers voting for candidates who help them. Frankly, I do not believe that any farm paper has stood up for the rights of farmers in the last six months as they should have done. Mr. Hoover's Food-Control law and that of New York state were passed for just one purpose, the robbing of farmers for the benefit of city consumers. The principle has been established in law that farmers must buy everything in markets where prices are governed by the law of supply and demand. But the farmers must sell only at prices driven just as far below that of an open market as the whole power of the government can drive them, with the one exception of $2 guaranteed for 1918 wheat.

At the present time the government is working hard on plans to drive down the prices of milk and of potatoes. I hear that officials in the United States Department of Agriculture have been carefully selecting a list of eighteen potato cost reports, showing the lowest cost per bushel in order to spread the statement broadcast that farmers could raise potatoes for 70 cents per bushel. Of course, I can, as can other successful potato specialists, but I saw Ed. Geers drive Russell Boy to a track record at Syracuse without getting the idea that a cavalry regiment could charge at a 2:04 speed. In the case of the milk cost reports the department had, they were silent as a grave a year ago when their publication would have helped the Dairymen's League contribution, and now they are ignored when Hoover wants to force milk down, even tho the League prices are below the cost prices secured on successful farms with cows averaging 6000 pounds.

Every politician, in office or trying to get in, is hunting for popular support for himself and his measures, whether his name is Wilson, Houston, Hoover, Whitman or Perkins. The past six months have shown that city consumers will vote for and support office-holders who will put money into their pockets by attempting to drive down food prices, and that farm papers and farmers will practically do nothing. Farm papers and farmers must fight, must *vote*, and must stand together if they can ever hope to prevent city consumers from outgoverning them. The list of New York legislators who voted for and against the Whitman-Perkins bill should be followed in every farm paper by a list of the congressmen who voted for the Hoover bill. We have been lied about by the whole gang, from Gompers down, for the last six months, and must expect to be lied about all the time. It is far better

I recommend for a platform on which to support farmer candidates—"A square deal for farmers, equal tariff protection, and equal rights with every other class in buying and selling."—*Daniel Dean*, Tioga Co., N. Y.

THE NEEDED PRICE

I want to commend your editorials in recent issue on the "Needed Encouragement" and "Protecting the Calves." Those editorials expressed my sentiments exactly. I believe that the farmers are ready and willing to raise all that they can if they can get a paying price for it. But how about the price of milk now? What is to become of the milk business? I know that a great many of the farmers are selling off their cows because there is no money in milk production at present prices of feed and labor. We are glad to see you hammering away at these subjects.—*J. H. Stauffer*, Chester Co., Pa.

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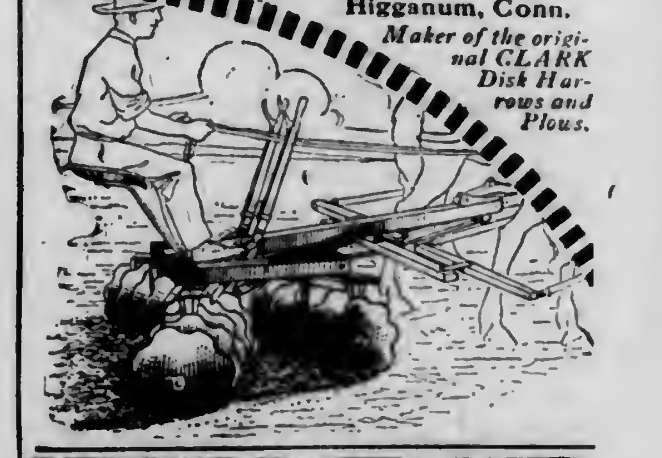

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HAY

NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

CHAPTER I

Frontier Day

Lefever, if there was a table in the room, could never be got to sit on a chair; and being rotund he sat preferably sidewise on the edge of the table. One of his small feet—his feet were encased in tight, high-heeled, ill-fitting horsemen's boots—usually rested on the floor, the other swung at the end of his stubby leg slowly in the air. This idiosyncrasy his companion, de Spain, had learned to tolerate.

But Lefever's subdued whistle, which seemed meditative, always irritated de Spain more or less, despite his endeavor not to be irritated. It was like the low singing of a tea-kettle, which, however unobtrusive, indicates steam within. In fact, John Lefever, who was built not unlike a kettle, and whose high, shiny forehead was topped by a pompadour shock of very yellow hair, never whistled except when there was some pressure on his sensibilities.

The warm sun streaming thru the windows of the private office of the division at Sleepy Cat, a railroad town lying almost within gunshot of a great continental divide, would easily have accounted for the cordial perspiration that illumined Lefever's forehead. Not that a perspiration is easily achieved in the high country; it isn't. None, indeed, but a physical giant, which Lefever was, could maintain so constant and visible a nervous moisture in the face of the extraordinary atmospheric evaporation of the mountain plateaus. And to de Spain, on this occasion, even the glistening beads on his companion's forehead were annoying, for he knew that he himself was properly responsible for their presence.

De Spain, tilted back in the Superintendent's chair, sat near Lefever—Jeffries had the mountain division then—his elbows resting on the arms of the revolving-chair, and with his hands he gripped rather defiantly the spindles supporting them; his feet were crossed on the walnut rim of the shabby, cloth-topped table. In this attitude his chin lay on his soft, open collar and tie, his sunburnt lips were shut tight, and above and between his nervous brown eyes were two little vertical furrows of perplexity and regret. He was looking at the dull-finish barrel of a new rifle that lay across Lefever's lap. At intervals Lefever took the rifle up and, whistling softly, examined with care a fracture of the lever, the broken thumb-piece of which lay on the table between the two men.

From the Main Street side of the large room came the hooting and clattering of a Frontier Day celebration, and these noises seemed not to allay the discomfort apparent on the faces of the two men.

"It certainly is warm," observed Lefever, apropos of nothing at all.

"Why don't you get out of the sun?" suggested de Spain shortly.

Lefever made a face. "I am trying to keep away from that noise."

"Hang it, John," blurted out de Spain peevishly, "what possessed you to send for me to do the shooting, anyway?"

His companion answered gently—Lefever's patience was noted even among contained men—"Henry," he remonstrated, "I sent for you because I thought you could shoot."

De Spain's expression did not change under the reproach. His bronzed face was naturally amiable, and his mental attitude toward ill luck, usually one of indifference, was rarely more than one of perplexity. His features were so regular as to contribute to this undisturbed expression, and his face would not ordinarily attract attention but for his extremely bright and alive eyes—the frequent mark of an out-of-door mountain life—and especially for a red birthmark, low on his left cheek, disappearing under the turn of the jaw. It was merely a strawberry, so-called, but an ineradicable stamp, and perhaps to a less preoccupied man a misfortune. Henry de Spain, however, even at twenty-eight, was too absorbed in many things to give thought to this often, and after knowing him, one forgot about the birthmark in the man that carried it. Lefever's reproach was naturally provocative. "I hope now," retorted de Spain, but without any show of resentment, "you understand I can't."

"No," persisted Lefever good-naturedly, "I only realize, Henry, that this wasn't your day for the job."

The door of the outer office opened and Jeffries, the superintendent, walked into the room; he had just come from Medicine Bend in his car. The two men rose to greet him. He asked about the noise in the street.

"That noise, William, comes from all Calabasas and all Morgan's Gap," explained Lefever, still fondling the rifle. "The Morgans are celebrating our defeat. They put it all over us. We were challenged yesterday," he continued in response to the abrupt questions of Jeffries. "The Morgans offered to shoot us offhand, two hundred yards, bull's-eye count. The boys here—Bob Scott and some of the stage-guards—put it up to me. I thought we could trim them by running in a real gunman. I wired to Medicine Bend for Henry. Henry comes up last night with a brand-new rifle, presented, I imagine, by the Medicine Bend Black Hand Local, No. 13. This is the gun," explained Lefever feebly, holding forth the exhibit. "The lever," he added with a patient expletive, "broke."

"Give me the gun, John," interposed de Spain resignedly. "I'll lay it on the track tonight for a train to run over."

"It was a time limit, you understand, William," persisted Lefever, continuing to stick pins calmly into de Spain. "Henry got to shooting too fast."

"That wasn't what beat me," exclaimed de Spain curtly. And taking up the offending rifle he walked out of the room.

"Nor was it the most humiliating feature of his defeat," murmured Lefever, as the door closed behind his discomfited champion. "What do you think, William?" he grumbled on. "The Morgans ran in a girl to shoot against us—true as there's a God in heaven. They put up Nan Morgan, old Duke Morgan's little niece. And what do you think? She shot the fingers clean off our well-known Black Hand scout. I never before in my life saw Henry so fussed. The little Music Mountain skirt simply put it all over him. She had five bull's-eyes to Henry's three when the lever snapped. He forfeited."

"Some shooting," commented Jeffries, rapidly signing letters.

"We expected some when Henry unslung his gun," Lefever went on without respecting Jeffries' preoccupation. "As it is, those fellows have cleaned up every dollar loose in Sleepy Cat, and then some. Money! They could start a bank this minute."

Sounds of revelry continued to pour in thru the street window. The Morgans were celebrating uncommonly. "Rubbing it in, eh, John?" suggested Jeffries.

"Think of it," gasped Lefever, "to be beaten by an eighteen-year-old girl."

"Now that," declared Jeffries, waking up as if for the first time interested, "is exactly where you made your mistake, John. Henry is young and excitable—"

"Excitable!" echoed Lefever, taken aback.

"Yes, excitable—when a girl is in the ring—why not? Especially a trim, all-alive, up-and-coming, blue-eyed hussy like that girl of Duke Morgan's. She would upset any young fellow, John."

"A girl from Morgan's Gap?"

"Morgan's Gap, nothing!" responded Jeffries scornfully. "What's that got to do with it? Does that change the fire in the girl's eye, the curve of her neck, the slope of her shoulder, John, or the color of her cheek?" Lefever only stared. "De Spain got to thinking about the girl," persisted Jeffries, "her eyes and neck and pink cheeks rattled him. Against a girl you should have put up an old, one-eyed scout like yourself, or me, or Bob Scott.

"There's another thing you forget, John," continued Jeffries, signing even more rapidly. "A gunman shoots his best when there's somebody shooting at him—otherwise he wouldn't be a gunman—he would be just an ordinary, every-day marksman, with a Schuetzenverein medal and a rooster feather in his hat. That's why you shoot well, John—because you're a gunman, and not a marksman."

"That boy can shoot all around me, Jeff."

"For instance," continued Jeffries, tossing off signatures now with a rubber stamp, and developing his incontestable theory at the same time, "if you had put Gale Morgan up against Henry at, say five hundred yards, and told them to shoot at each other, instead of against each other, you'd have got bull's-eyes to burn from de Spain. And the Calabasas crowd wouldn't have your money. John, if you want to win money, you must study the psychological."

There was abundance of raillery in Lefever's retort: "That's why you are rich, Jeff?"

"No, I am poor because I failed to study it. That is why I am at Sleepy Cat holding down a division. But now that you've brought Henry up here, we'll keep him."

"What do you mean, keep him?" demanded Lefever, starting in protest.

"What do I mean?" thundered Jeffries, who frequently thundered even when it didn't rain in the office. "I mean I need him. I mean the time to shoot a bear is when you see him. John, what kind of a fellow is de Spain?" demanded the superintendent, as if he had never heard of him.

"Henry de Spain?" asked Lefever, sparring innocently for time.

"No, Commodore George Washington, General Jackson, Isaac Watts de Spain," retorted Jeffries peevishly. "Don't you know the man we're talking about?"

"Known him for ten years."

"Then why say 'Henry' de Spain, as if there were a dozen of him? He's the only de Spain in these parts, isn't he? What kind of a fellow is he?"

Lefever was ready; and as he sat in a chair sidewise at the table, one arm flung across the green baize, he looked every inch his devil-may-care part. Regarding Jeffries keenly, he exclaimed with emphasis: "Why, if you want him short and sharp, he's a man with a soft eye and a snap-turtle jaw, a man of close squeaks and short-arm shots, always getting into trouble, always getting out; a man that can wheedle more out of a horse than anybody but an Indian; coax more shots out of a gun than anybody else can put into it—if you want him flat, that's Henry, as I size him."

Jeffries resumed his mildest tone: "Tell him to come in a minute, John."

De Spain himself expressed contemptuous impatience when Lefever told him the superintendent wanted him to go to work at Sleepy Cat. He declared he had always hated the town; and Lefever readily understood why he should especially detest it just now. Every horseman's yell that rang on the sunny afternoon air thru the open windows—and from up the street and down there were still a good many—was one of derision at de Spain's galling defeat. When he at length consented to talk with Jeffries about coming to Sleepy Cat, the interview was of a positive sort on the one side and an obstinate sort on the other. De Spain raised one objection after another to leaving Medicine Bend, and Jeffries summoned a show of impatience.

"You are looking for promotion, aren't you?" he demanded threateningly.

"Yes, but not for motion without the 'pro,'" objected de Spain. "I want to stick to the railroad business. You want to get me into the stage business."

"Temporarily, yes. But I've told you when you come back to the division proper, you come as my assistant, if you make good running the Thief River stages. Think of the salary."

"I have no immediate heirs."

"This is not a matter for joking, de Spain."

"I know that, too. How many men have been shot on the stages in the last six months?"

"Why, now and again the stages are held up, yes," admitted Jeffries brusquely; "that is to be expected where the specie shipments are large. The Thief River mines are rotten with gold just now. But you don't have to drive a stage. We supply you with good men for that, and good guards—men willing to take any kind of a chance if the pay is right. And the pay is right, and yours as general manager will be right."

"I have never as yet generally managed any stage line," remarked de Spain, poking ridicule at the title, "no matter how modest an outfit."

"You will never learn younger. There is a fascination," declared Jeffries, ignoring the fling, and tilting his chair eloquently back to give ease and conviction to his words, "about running a good stage line that no railroad business can ever touch. There is, of course, nothing in the Rocky Mountains, for that matter in the United States—nothing, I guess, in the world—that approaches the Thief River line in its opportunities. Every wagon we own, from the lightest to the heaviest, is

built to order on our particular specifications by the Studebaker people." Here Jeffries pointed his finger sharply at de Spain as if to convict him of some dereliction. "You've seen them! You know what they are."

"Second-growth hickory in the gears," continued Jeffries encouragingly, "ash tongues and boxes——"

"Some of those old busses look like ash-boxes," interposed de Spain irreverently.

But Jeffries was not to be stopped: "Timkin springs, ball-bearing axles—why, man, there is no vehicle in the world built like a Thief River stage."

"You are some wagon-maker, Jeff," said de Spain, regarding him ironically.

Jeffries ignored every sarcasm. "This road, as you know, owns the line. And the net from the specie shipments equals the net on an ordinary railroad division. But we must have a man to run that line that can curb the disorders along the route. Calabasas Valley, de Spain, is a bad place."

"Is it?" de Spain asked as naively as if he had never heard of Calabasas, tho Jeffries was nervily stating a fact bald and notorious to both.

"There are a lot of bad men there," Jeffries went on, "who are bad simply because they've never had a man to show them."

"The last 'general' manager was killed there, wasn't he?"

"Not in the valley, no. He was shot at Calabasas Inn."

"Would that make very much difference in the way he felt about it?"

Jeffries, with an effort, laughed. "That's all right, Henry! They won't get you." Again he extended his finger dogmatically: "If I thought they would, I wouldn't send you down there."

"Thank you."

"You are young, ambitious; four thousand a year isn't hanging from every telegraph-pole; it is almost twice what they are paying me."

"You're not getting shot at."

"No man, Henry, knows the hour of his death. No man in the high country knows when he is to be made a target—that you well understand. Men are shot down in this country that have no more idea of getting killed than I have—or you have."

"Don't include me. I have a pretty good idea of getting killed right away—the minute I take this job."

"We have temporized with this Calabasas outfit long enough," declared Jeffries, dropping his mask at last. "Deaf Sandusky, Logan, and that squint-eyed thief, Dave Sassoon—all hold-up men, every one of them! Henry, I'm putting you in on that job because you've got nerve, because you can shoot, because I don't think they can get you—and paying you a whaling big salary to straighten things out along the Spanish Sinks. Do you know, Henry—" Jeffries leaned forward and lowered his town. "Do you know, he repeated, "I suspect that Morgan Gap bunch are really behind and beneath a lot of this deviltry around Calabasas? You take Gale Morgan: Why, he trains with Dave Sassoon; take his uncle, Duke: Sassoon never is in trouble but what Duke will help him out." Jeffries exploded with a slight but forcible expletive. "Was there ever a thief or a robber driven into Morgan's Gap that didn't find sympathy and shelter with some of the Morgans? I believe they are in every game pulled on the Thief River stages."

"As bad as that?"

Jeffries turned to his desk. "Ask John Lefever."

De Spain had a long talk with John. But John was a poor adviser. He advised no one on any subject. He whistled, he hummed a tune, if his hat was on he took it off, and if it happened to be off, which was unusual, he put it on. He extended his arm, at times, suddenly, as if on the brink of a positive assertion. But he decided nothing and asserted nothing. If he talked, he talked well and energetically; but the end of a talk usually found him and de Spain about where they began. So it was on this trying day—for Lefever was not able wholly to hide the upsetting of his confidence of victory, and his humiliation at the now more distant yells from the Calabasas and Morgan Gap victors.

But concerning the Morgans and their friends, Lefever, to whom Jeffries had rudely referred the subject at the close of his talk with de Spain, did abandon his habitual reticence. "Rustlers, thieves, robbers, coiners, outlaws!" he exclaimed energetically.

"Is this because they got your money today, John?" asked de Spain.

"Never mind my money. I've got a new job with nothing to do, and plenty of cash."

De Spain asked what the job was. "On the stages," announced Lefever. "I am now general superintendent of the Thief River Line."

"What does that mean?"

"It means that I act for the reorganization committee in buying alfalfa for the horses and smokeless pipes for the guards. I am to be your assistant."

"I'm not going to take that job, John."

"Yes, you are."

"Not if I know it. I am going back to Medicine Bend tonight." Lefever took off his hat and twirled it skilfully on one hand, humming softly the while. "John," asked de Spain after a pause, "who is that girl that shot against me this afternoon?"

"That," answered Lefever, thinking, shocked, of Jeffries' words, "was Nan Morgan."

"Who is she?"

"Just one of the Morgans; lives in the Gap with old Duke Morgan, her uncle; lived there as long as I can remember. Some shot, Henry."

"How can she live in the Gap," mused de Spain, "with an outfit like that?"

"Got nowhere else to live, I guess. I believe you'd better change your mind, Henry, and stay with us."

"No," returned de Spain meditatively, "I'm not going to stay. I've had glory enough out of this town for a while." He picked up his hat and put it on. Lefever thought it well to make no response. He was charged with the maintenance and operation of the stage-line arsenal at Sleepy Cat, and spent many of his idle moments toying with the firearms. He busied himself now with the mechanism of a huge revolver — one that the stage-driver, Frank Elpaso, had wrecked on the head of a troublesome negro coming in from the mines. De Spain in turn took off his hat, poked the crown discontentedly, and, rising with a loss of amiability in his features and manner, walked out of the room.

The late sun was streaming down the full length of Main Street. The street was still filled with loiterers who had spent the day at the fair, and lingered now in town in the vague hope of seeing a brawl or a fight before sundown—cattlemen and cowboys from the northern ranges, sheepmen from the Spider River country, small ranchers and irrigators from the Bear basin, who picked their steps carefully, and spoke with prudence in the presence of roisterers from the Spanish Sinks, and gunmen and gamblers from Calabasas and Morgan's Gap. The Morgans themselves and their following were out to the last retainer.

(To be continued.)

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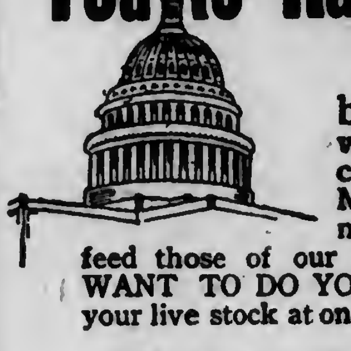

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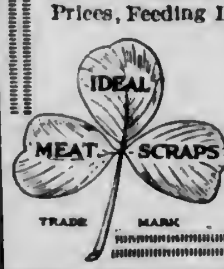

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Live Stock

OUR PORK BARREL

We were farming for some years before we began to raise pigs. Three years ago, when we were ready for them, we bought three six-weeks-old pigs from the farmer next to us. They cost $3 a piece and were bought July 31. We made our start in summer because the pigs would be ready to kill for market in January, the month when money was more scarce with us than at any other time.

For the first few days the trio were fed corn meal and middlings mixed with skim milk. Then, following the example of all the farmers in the neighborhood, we arranged to go to the market town, four miles away, twice a week for the table waste from a first-class hotel, and thereafter table waste was all the feed the pigs had except milk, buttermilk, weeds and green stuff from the farm, such as specked, unmarketable fruit and vegetables. A western pork producer told us that pigs would eat everything except tomatoes and tin cans. We did not try tin cans with ours, but they have never shown the least distaste for tomatoes; they eat them readily both raw and cooked. Then we have always used a good stock remedy in the feed about once a week.

At first it seemed distasteful to go to town for table waste, but we had to take fruit and vegetables to market anyway, and it was very little extra trouble to put a clean barrel with a tight lid into the wagon and to give the hotel porters an occasional tip for filling it. The market wagon was covered and the close-fitting barrel top prevented the escape of odors and it reduced the cost of raising the pigs to the lowest terms. Later on, when there were a great many pigs, we had a box fitted into an open farm wagon and the hired man, for we could then afford the expense of one, went and still goes for the table waste four or five times a week. This box is lined with galvanized iron and has a hole in the bottom, tightly stopped up when in use, but removed when the box is washed out for its regular, thoro cleansing. It is two and one-half feet deep, with a heavy, hinged cover. By the time we were raising 40 to 50 pigs, grain had to be fed too, altho table waste would appear to be a pigs' natural feed, to judge from the way ours have always gone for it and thrived upon it.

Fifteen weeks after we bought the first lot, that is, about the middle of November, one weighed 96 pounds, the other two 75 pounds each, and we had the chance to sell them for 10 cents a pound, live weight, which we did. The selling price lacked only two dollars of trebling our original investment. The pig business seemed such a safe investment, we figured that if three live pigs at three and one-half months old would nearly treble their cost, 20 pigs, all we could afford to buy, at six months old, dressed and sold as meat, would bring us good money, would be our pork barrel without the bother of troubling Congress about it. Therefore, we plunged.

By December 1st we had 16 little pigs, four short of the 20 we wanted, but all of the nearby good ones that were for sale. They were put into two good houses, were fed just as the first ones were fed and were given the best of care. In two weeks one was dead; within six weeks nine others had joined them and we were left with only six out of the sixteen, and with thoroly upset calculations. The discouraging thing about it was our inability to diagnose the ailment. We thought the trouble was due to buying the pigs too late in the fall, that if we could have had them about the first of October they would have passed the danger period before the cold nights set in. A successful hog raiser, to whom we went for advice, too late, said that in his experience heavy mortality among fall pigs was caused by damp bedding, that a good bed, but not too deep, of clean, dry straw should be given every night. At any rate, profiting by that season's experience and our friend's advice, we never have tried to keep many young pigs in winter unless they were farrowed in September or early October, and we have never lost such a large proportion of them.

In June we sent to a reliable breeder in a neighboring state and bought a registered Poland China brood sow that had been bred and was due to farrow the latter part of July, paying $35 for her. It was taking a chance, and a pretty steep outlay for us, but it turned out to be the best thing we could have done, for she brought us a litter of 13 fine pigs. Two of them died, we selected the best two gilts for brood sows and sold th remaining nine in the fall, as meat, for $209. The young brood sow we had raised ourselves had eight pigs that summer, or rather fall as it was in September; but three of them died. Just before Christmas one of them was killed and put down in brine for home use. In March the remaining four were dressed and sold to the butcher. That winter our pigs netted us $256 and gave us all the fresh and salt pork, sausages and lard we could use.

From that time we have followed the plan which, for us at least, has proved the most satisfactory, and that is to keep four brood sows which produce two litters each, a year, averaging about 40 pigs twice a year. More are farrowed but some always die, many times by accident, sometimes thru cannibalism on the part of the sow. We cannot very well care for more than 80 to 100 pigs at a time because we have only fifteen acres and do not wish to have the pens too near the house. We expect to keep that many in time, working up to it gradually. The spring litters are raised and sold as meat during the winter. Nearly all of the fall pigs are sold at six weeks for $7 to $9 per pair. We keep a few of them to dress and sell in the spring and our aim is to so raise and fatten them that we will have some to sell nearly every month in the year.

The pig business means a great deal of work, much of it quite disagreeable work, but for the amount of labor and money required to produce and market the pigs the results are more certain than raising truck, berries or fruit. Pigs can be protected from weather conditions that may damage if not entirely destroy a season's crop, for like all animals they will live and thrive if well bred, given proper food and a house that is warm, dry and clean.

Last year our income from pigs amounted to $1,102; $950 from 50 sold as meat and $152 from the sale of 19 pairs of young pigs. Not all of this was profit for about $100 worth of grain was used, the killing expense was $40 and a portion of the hired man's wages should be deducted. In round numbers the net income was $900. During the same season the income from fruit and truck came to $478, a sum gained by unremitting, back-breaking toil, during a working day of fifteen hours.—M. R. Thomas, Middlesex Co., N. J.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Sore Shoulders.—I have a four-year-old horse that is troubled with tender shoulders. We are particular about his collar, but no matter how painstaking we are, he is inclined to be troubled with sore shoulders. The most of this trouble is low down, on point of shoulder. There are no bunches but the skin is raw. G. B. K., Gifford, Pa.—There are two things that you can do that might relieve him. First, the collar may be too short and the draft may be too low. It is always important that a collar be not too wide, not too short and that the draft be in proper place. If not, when the horse pulls a certain portion of the shoulder is bruised. Disolve ¼ pound sugar of lead, 3 ounces sulphate of zinc, and 3 ounces of tannic acid in a gallon of clean water and wet shoulders, three times a day. You had better occasionally apply equal parts oxide of zinc and boric acid to raw portion of shoulder or paint sore with tincture iodine occasionally.

Heaves.—We have a gelding, eight years old, that will weigh 1,300 pounds. He has been troubled with a cough for the past ninety days and breathes exactly like a horse that has heaves. So far as I can tell he is not sick and his appetite is great. M. S. H., Cherryville, Pa.—If this horse is potbellied and a ravenous eater, you had better bed him with shavings or sawdust or leave him in the pasture lot at night. Feed no clover or musty dry fodder; it should all be dampened and of good quality. Give him one dram powdered lobelia, ½ dram fluid extract nux vomica, one dram muriate ammonia and ½ oz. Fowler's solution at a dose in either feed or drinking water, three times a day. He should have regular exercise daily and it will not harm him to do moderate work. In order to obtain permanent results this treatment should be kept up for some time and if you do not pay strict attention to his diet, he will not improve.

Low-Down Ringbone. — I have a three-year-old colt that has been lame for the past three months. Lately a bunch has appeared on lower part of pastern. My neighbor, who is a horseman, tells me it is ringbone. If so, what treatment do you recommend? G. S. A., Espyville, Pa.—Firing is the most heroic treatment for an ailment of this kind; however, you had better clip off hair and apply one part red iodide mercury and four parts lard, or you can safely try any of the commercial ringbone remedies that are regularly advertised in this paper. You must understand that low-down ringbone is not always curable.

Bruised Udder.—We have a four-year-old cow that bruised udder while stepping over door sill, one week ago. Since then her bag has been quite swollen and tender on the fore part of right front quarter. I first bathed it with hot water, then applied lard and turpentine, but she is no better. What do you recommend for a case of this kind? M. B. G., Parkersville, Pa.—It was a mistake to have applied turpentine and lard when the udder was in an inflamed condition. Apply one part fluid extract phytolacca, one part fluid extract belladonna and fifteen parts lanolin, once a day. Give her a teaspoonful powdered nitrate of potash in drinking water, twice a day, or give her a tablespoonful of fluid extract of phytolacca at a dose, twice a day for three or four days. If you stable her, she should be liberally bedded.

Partial Loss of Power.—We have a shoat that will weigh about 110 pounds, is in a seemingly thrifty condition, but seems to have rather poor use of hind quarters. He has been well fed on corn and separator milk and has also had access to grass. M. F. R., Nordmont, Pa.—Doubtless you should have fed him some oats, oil meal, tankage or more green food. Had you fed him less corn, he would have been all right.

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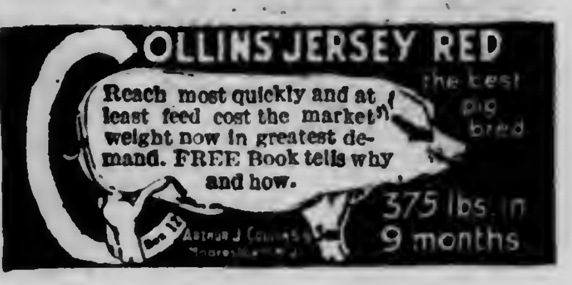
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PENNSYLVANIA FARMER

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PUBLISHED WEEKLY

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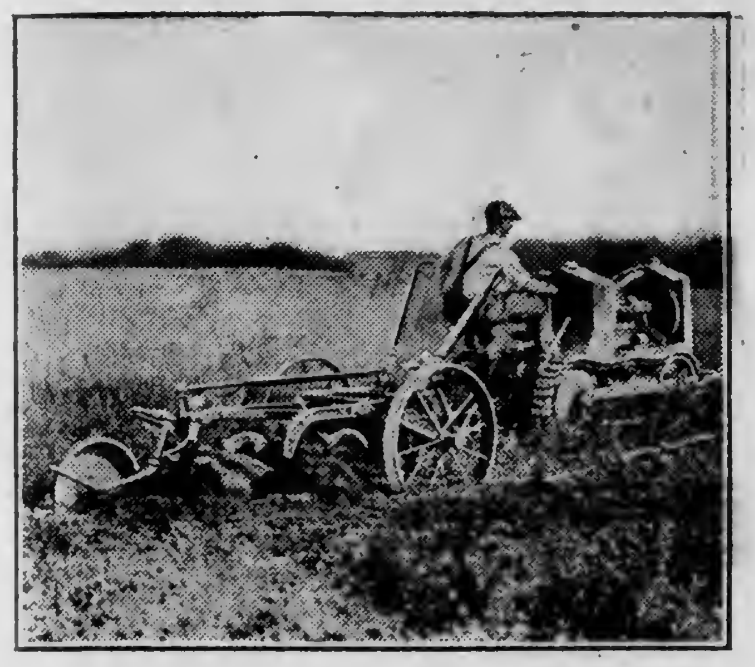
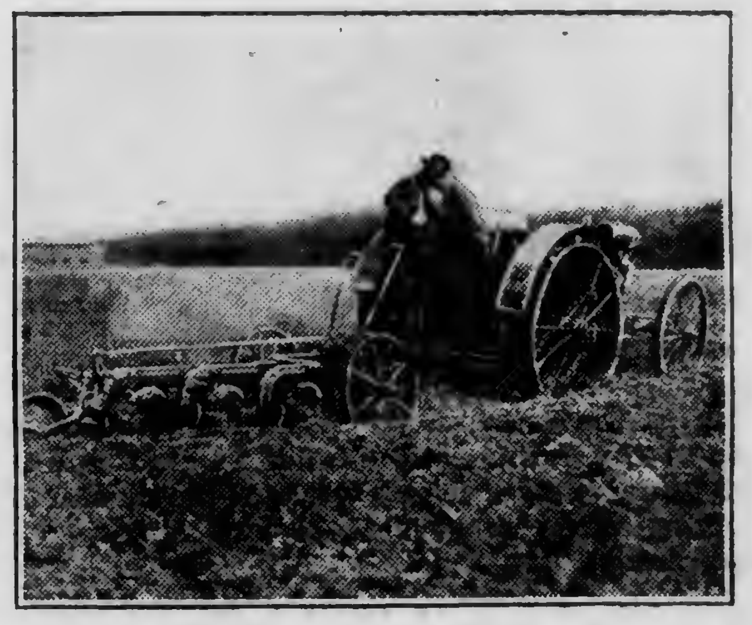
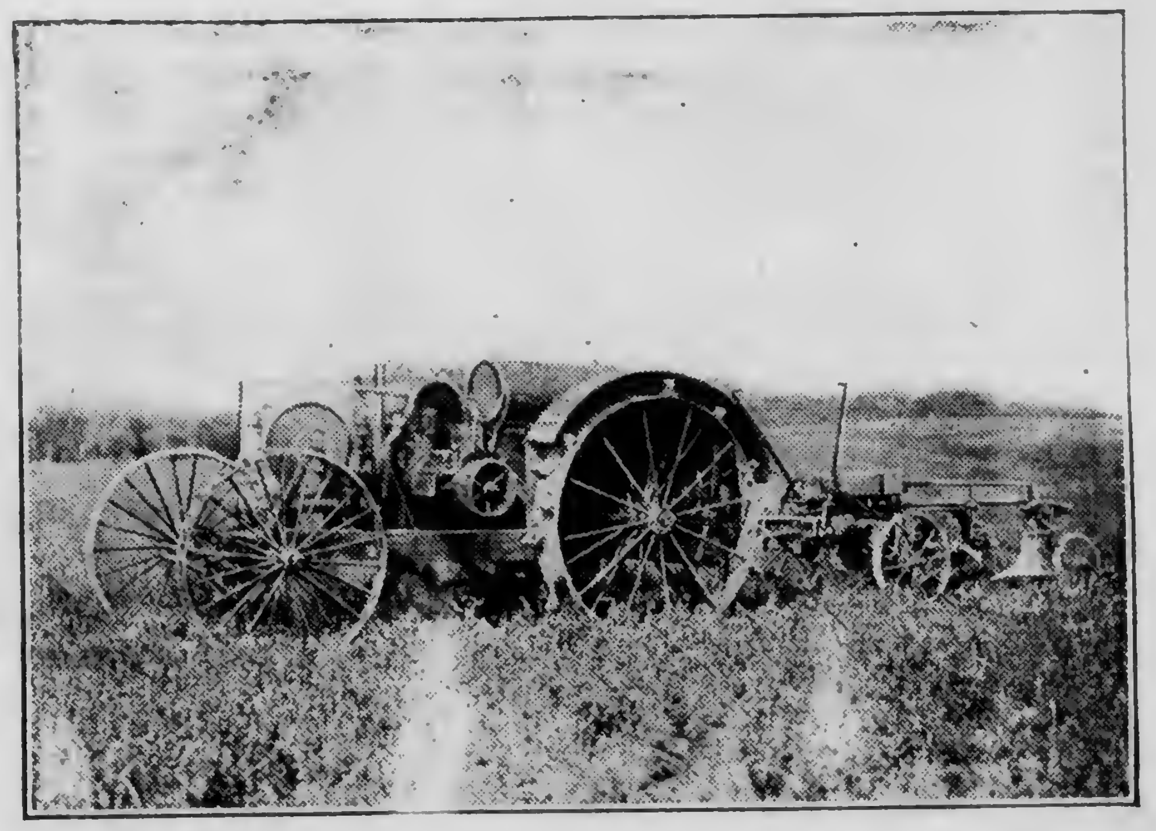
Vol. 42--No. 15. PHILADELPHIA, PA., SATURDAY, OCTOBER 13, 1917 75 Cents per Year



SOME of the tractors in operation at the recent Tractor Demonstration, at Plainsboro, N. J. Each tractor plowed a plot of ground each day of the Demonstration, including corn stubble, timothy sod and old alfalfa sod. Tractors are shown drawing two and three-bottom plows according to their power rating.





Even spread, maximum penetration. Winchester shot pattern brings down the game.

Winchester Model 12 Hammerless Shotgun

The pattern that brings down the game

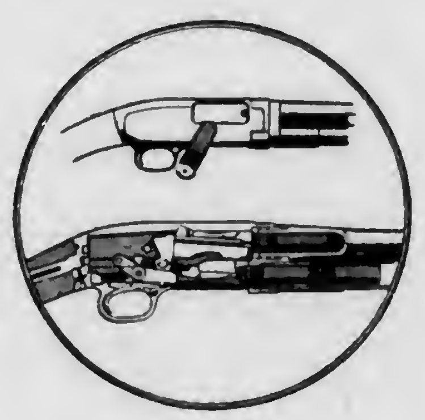
A perfect pattern may thoroughly cover the bird, but it's the high velocity of the shot charge that insures a kill. A game-getting gun must throw an *even* pattern with lots of steam behind it.

The Winchester Model 12 Repeating Shotgun is designed and bored to *bring down the game.* Its pattern shows a perfectly distributed shot spread with maximum penetration. That's why it is the choice of sportsmen everywhere.

The gun for every sort of wild fowl shooting

Whether you're snap shooting at upland plover or trying a long shot down in the blind, there is a gauge and a bore of the Winchester Model 12 that will give you the pattern you want. This master shotgun meets every kind of bird shooting requirement.

The Winchester Model 12 is beautiful in design, light in weight, simple and sure in operation. It points like your own arm. It can always be depended on to plant its charge *closely, evenly* and *strongly* at the range its choke adapts it for. It works smoothly in whatever position it is held. For those who prefer a hammer action gun, we have made the Model 97. It is built on similar lines to the Model 12, but with hammer action.



Quick feeder, sure ejector. Throws empty shells to the side, out of your way

The barrel *is* the gun

Men who know guns realize that the accuracy and durability of a gun lie in the barrel. On the quality of the barrel depends the quality of the gun. There is absolutely no difference in the standard of quality of the barrels on the highest and lowest priced Winchester guns. With Winchester the barrel *is* the gun and the single standard of quality has been attained only by the most unremitting attention to the boring, finishing and testing of the barrel.

The Winchester barrel

The barrel of the Winchester Model 12 has been bored to micrometer measurements for the pattern it is meant to make. The degree of choke exactly offsets the tendency of the shot to spread. Until its pattern proves up to Winchester standard the gun cannot leave the factory. The Nickel Steel construction preserves the original accuracy forever.

The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a distinctive blue finish that, with proper care, will last a lifetime.

What ⓌⓅ means

This mark on the barrel means *Viewed and Proved Winchester.* This stamp stands for Winchester's guarantee of quality, with 50 years of the best gun-making reputation behind it.

Every gun that bears the name "Winchester" and that is marked with the Winchester Viewed and Proved stamp has been fired many times for smooth action and accuracy, and has been fired with excess loads for strength. At every stage of Winchester manufacture, machine production is supplemented by human craftsmanship. It is a *test and adjustment process.*

It is this care in manufacturing that has produced in the Model 12 and Model 97 guns of unsurpassed game-getting qualities that have won the name of "The Perfect Repeaters" among wild fowl hunters.

Write for details of Winchester shotguns, rifles and ammunition

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Winchester Model 97 Hammer Shotgun
Take down Repeating Shotgun. Made in 12 gauge, weight about 7¾ lbs.; in 16 gauge, weight about 7½ lbs. The favorite with shooters who prefer a slide forearm repeating shotgun with a hammer.

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ESTABLISHED 1880 PUBLISHED WEEKLY

The Lawrence
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First Principles of Tile Drainage

Where Drainage is Needed and Benefits to be Derived.

By R. A. ANDREE

PENNSYLVANIA STATE COLLEGE

According to the U. S. Department of Agricul- Circular No. 76, the area of swamp and over- ed land in Pennsylvania amounts to 48,000 acres. re is no question but that besides this the vo- a soils of the northern and northwestern part of state would be materially benefited by under- inage. In addition to this, much benefit could derived by the proper drainage of the innumer- wet areas all over this state caused by seepage, ngs and spouty conditions. Large areas also are actually wet enough to cause winter killing, ing of the soil, or rotting of the seed, yet they ld permit earlier germination of seed and earlier uring of the crop if they were drained.

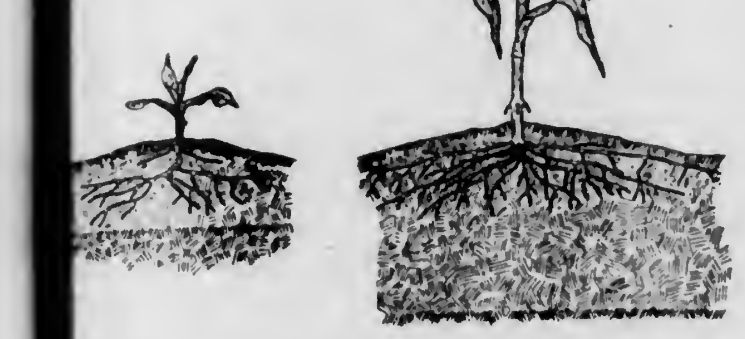


FIG. 1-A. SHALLOW ROOT SYSTEM DUE TO HIGH WATER TABLE.

Where Drainage is Needed

A false impression seems to have gained ground only land upon which water stands for a con- rable length of time needs drainage. Such a ition simply indicates that the water table is, the time being, above the surface of the ground. e areas get rid of such water very rapidly by ace drainage, yet this does not mean that the is drained, for the water in the soil may still in for some time. Land to be erly drained must have its water lowered to a depth of from 2 feet within a comparatively t time.

There are five fundamental con- ns under which drainage is need-

1. Land which is wet because it o flat to be surface drained.
2. Land which is fairly porous would be well drained if it were for the fact that it receives too surface water from adjoining s.
3. Land which is so impervious water cannot pass down into it ily.
4. Land that is low and left wet ood waters.
5. Land that is spouty or gy.

It is to be remembered that any which is naturally well-drained rid of its superfluous water by itting considerable surface drain- and by allowing the remainder apidly sink below the reach of . The ground in this case, of course, holds only the capillary moisture which is so desirable for plant growth. Any artificial drainage system must accomplish the same results with the least possible expense. It is therefore necessary to design a system to suit a combination of one or more of the five conditions here mentioned.

Benefits

A well-drained soil means earlier crops for several reasons. First of all it enables the farmer to get on to the land earlier in the spring. Second, the soil warms up much sooner in the spring. This is due to the fact that a wet soil allows the warm spring rains to pass over the surface while a well-drained soil allows them to penetrate. A wet soil also warms up slower than a drained soil because it takes a great deal of heat to warm up the water in it. It is a well-known fact that evaporation lowers the temperature so that a wet soil which is losing its water by evaporation actually has its temperature lowered. Another advantage of drainage is that it permits much earlier cultivation. Aeration is improved, thus aiding in the decomposition of organic matter and doing much toward keeping the soil sweet. It is a waste of money to lime a wet soil because it will not materially improve the growth of the legumes. Nitrification is improved on account of the fact that these bacteria are air loving and will not live in poorly drained soils.

One of the greatest benefits of drainage is that it helps to make the plants drouth resisting. This is shown in Figs. 1A and 1B. In a poorly drained soil the water table is shallow for a long time in spring. This causes plant roots to spread over a large area instead of growing down deep into the soil. This is due to the fact that roots need some air for their development and cannot live in a water-logged soil. Aquatic plants are, of course, exceptions. When the first dry spell comes along, the water table is considerably lowered and capillarity cannot bring it within the reach of the roots in sufficient amounts.

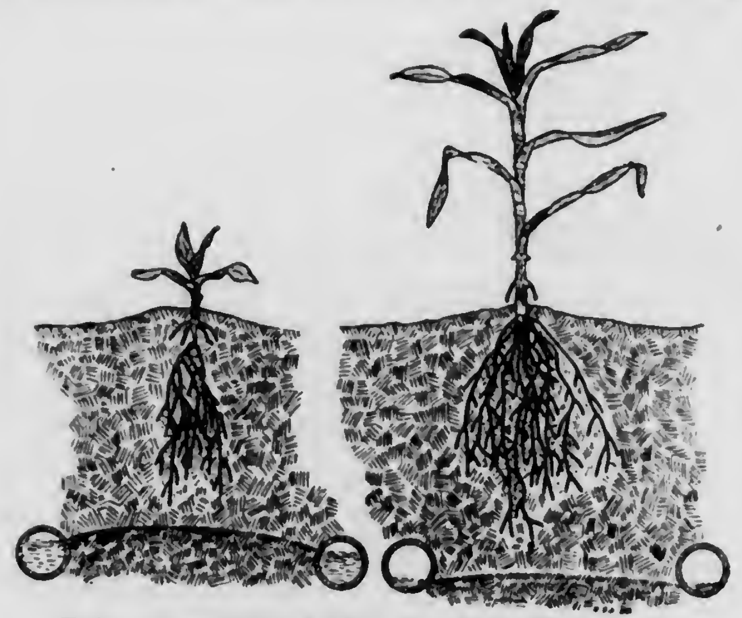


FIG. 1-B. DEEP ROOT SYSTEM PRODUCED BY DRAINAGE.

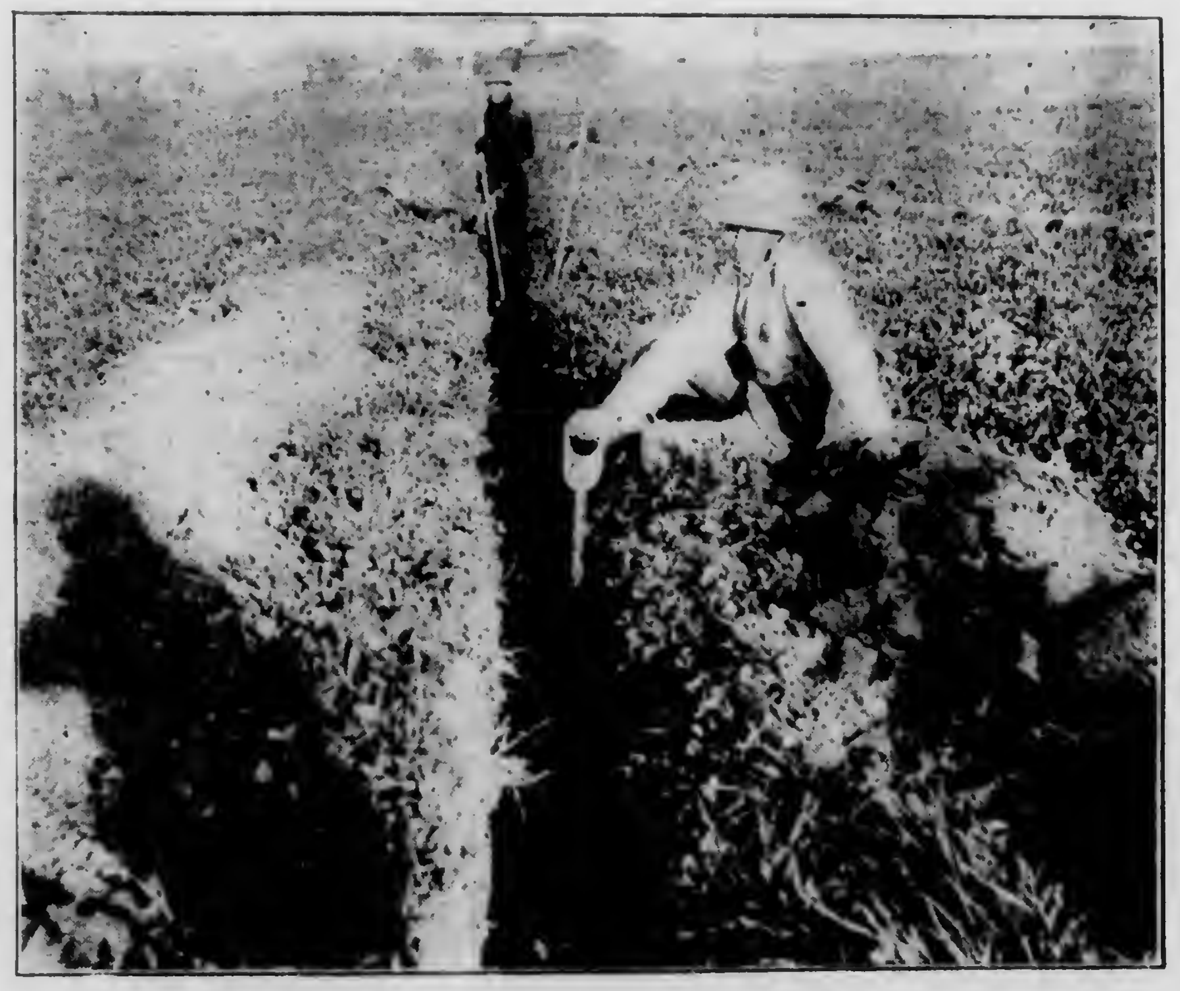
This stunts the development of the plant and we say it suffers from drouth. What is actually the case is that the plant suffers from too shallow drainage. In a well-drained soil the water table is deep, so that the plant roots can penetrate deep into the soil. Then when a dry spell comes along the water table is not lowered much more and the roots are within the reach of moisture. This is a very important point and should be well understood. It is also a big argument for deep drainage.

Heaving of the soil always indicates insufficient drainage. The water freezing in a wet soil expands and lifts it. This causes seeds and plants to be thrown entirely out of the ground in many cases and is the cause of much winter killing of wheat in this state. The effect of heaving has often been demonstrated when laying out a drainage system. Stakes are often driven in the fall while the laying of drain tile is sometimes not completed until the following spring. Stakes driven in wet spots are usually found on top of the ground in the spring, while those driven on higher places are still found sticking in the ground.

Underdrainage is also a big aid in preventing erosion which is a troublesome factor on so many eastern farms. Wet spots are breeding places for mosquitoes and diseases. Take this one case as an example: The liver fluke of sheep can only exist by completing its life cycle by passing certain stages in the bodies of snails. Get rid of the snails by draining the wet places and you have gotten rid of all opportunities for the spread of liver fluke. This disease is finding its way into the East and will undoubtedly become more prevalent as sheep raising increases.

Fundamental Principles

Plants cannot take their food in a solid state, but absorb it when it is



CAREFUL WORK IN LAYING ADDS YEARS TO A DRAINAGE SYSTEM.

in solution with water. Moist soil forms an ideal medium for holding this plant food. Just as a blotter soaks up ink, so a soil draws the water from beneath to higher levels. This is spoken of as capillary water. Whatever is in excess of this is known as hydrostatic water and is useless for plant growth except as it may replenish the supply of capillary water. No amount of drainage can possibly remove the capillary water of the soil; therefore overdrainage is impossible. Wherever drainage has caused plants to suffer from drouth, too shallow drainage is the trouble, and not over-drainage. Comparatively little water gets into a drain from above. The hydrostatic water sinks into the soil until it is stopped by some impervious layer. Then the water level begins to rise until it reaches the tile which carry it off. This is the reason why a deep drain will begin to discharge water sooner and will continue to do so longer than a shallow drain in the same kind of soil. This is another argument for deep drainage.

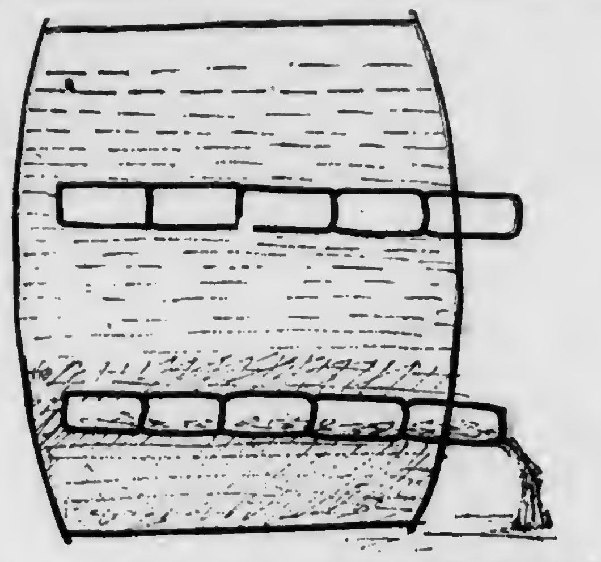


FIG. 2. LOWER TILE STARTS SOONER AND RUNS LONGER.

As this point is not always clear, it might be well to compare the apparatus shown in Fig. 2 with actual conditions to be found in the soil. The receptacle is filled with soil and has two lines of tile emerging from it at different depths. If you pour water into the receptacle, it is obvious that the lower tile will be the first one to discharge water and will be the one to operate the longest. Another advantage of deep drainage is that less tile are needed. By referring to Fig. 3 it will be seen that the water table for the shallow drain indicates a wet spot which would drain very slowly while the water table for the deep drains shows how this trouble would be remedied. If then it were only required to remove the water from a piece of land and we had plenty of time to do it, deep drainage of 4 to 5 feet would be desirable in all cases. The factor of time, however, must be taken into consideration; that is, the superfluous water must be removed within a reasonable length of time. For this reason it is unfortunately necessary to lay tile more shallow in a dense clay soil than in a sandy loam.

Not all soils can be satisfactorily tile drained. In some cases, where water in large amounts is supplied from the surrounding uplands, it would take a large number of very large tile to take care of the water rapidly and successfully. In such cases it is necessary to prevent the excess water from reaching the lower lands by proper cut-off runs and open ditches. Additional tile drainage may then be desirable and feasible.

Mistakes are often made by laying tile across a slope instead of with the slope. This is due to the idea that tile laid across the slope will intercept the water, carry it off and so prevent its reaching the land below. Upon second thought, however, it will be clear that such a drain cannot be effective because it has too little opportunity to gather the water, and, besides, it may give up some of it before it reaches its destination. A drain laid across a slope starts taking up the water as soon as the latter reaches it, and continues to do so unil the water has passed beyond its reach. The water not taken up during its short travel from one side of the tile to the other passes on to the land beneath. When tile are laid with the slope, the water has a chance to enter the tile every time it passes a joint. If it does not enter a tile after traveling 10 or 15 feet it receives innumerable other opportunities and may enter after having travelled 50 feet. Therefore, tile should be laid with the slope wherever possible.

Water enters a tiling system thru the joints only. If any water enters thru the pores of the tile it is so very little as to be negligible. A porous tile has no advantages over a non-porous one; in fact, the latter is more desirable. Where it is absolutely necessary to lay a drain across a slope it is better to put it in an open ditch. The ditch should be made four feet deep or more so that the seepage water can trickle down its sides and be carried off. A shallow surface run will not do for this purpose.

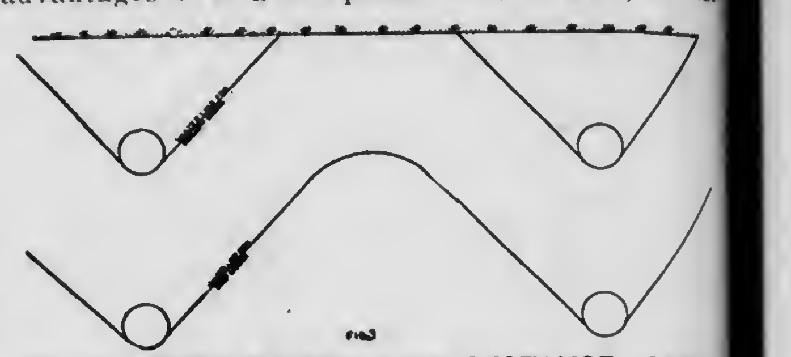


FIG. 3. WHEN SPACED SAME DISTANCE APART, DEEPER TILE DRAIN LARGER AREA.

Note.—This is the first of a series of articles on tile drainage. The second article taking up systems of drainage will be published in an early issue.—The Editors.

Conserving and Increasing the Food Supply

By W. Milton Kelly

Altho unharvested, the year's production of food crops is limited by conditions that mark the passing of August. Nothing can be done to add to the 1917 crop yields; that was possible in part last spring and the years before when seeds were selected and careful attention given to fertilizing and preparing the land, together with cultivating and caring for the crops. Growing large crops is not a matter of one year's undertaking. It is not too late, however, for the farmer to add materially in conserving and increasing our supply of food so as to minimize hardship from an apparent shortage of a few staples. The things that are immediately necessary to augment the food supply are saving the season's crops, preserving them in proper condition for food, and feeding live stock so that they shall produce every pound of food stuffs possible for the sustenance and comfort of our people. It is no time to experiment with new and untried methods and theories, but it is important that the farmer shall devote his efforts to saving his crops and the employment of such methods as are well established in his community and likely to yield the maximum of food and clothing material.

Finish the Live Stock Before Selling

It will pay every farmer to stop and figure before selling live stock half-fattened because grain feeds are bringing high prices. It is true that every kind of grain feed is high and the demand is likely to put prices to a level that under ordinary circumstances would make its use prohibitive, but meat prices are sure to advance in proportion, so that the farmer who has the nerve to feed out his stock is sure to come out better at the end of the season than those who sacrifice stock in half-fitted condition. It is always good business policy to feed out good stock rather than market it at light weights. Marketing animals before they are well-conditioned robs the farmer of possible profits and the consumer of a just expectation of meat at a living price.

The 1917 crop of live stock marketed at light weights would furnish less than two-thirds as much sustenance to meat consumers as would result if it was properly conditioned. The percentage of waste is always greater in light, poorly-fitted animals. We need every pound of good meat that can be added to our 1917 crop of live stock during the coming months, and the danger of prices breaking thru any surplus of grain that might exist in the country will be lessened by the beneficient increase of meat which is needed for our normal consumption. In the face of present conditions it is no mark of intelligence nor patriotism for the farmer to send his stock to the market in a half-finished condition.

Condition All Animals Before Winter

Every effort possible should be made to maintain the quality and efficiency of breeding herds and develop young stock that is to be held over for breeding purposes. A little fat under the growing animal's hide in the fall is worth bushels of feed later on as a protection against winter's cold. Fat can be put on now, but the calf or pig that drifts into the winter in poor flesh condition must be well sheltered and fed a great amount of concentrated feed to warm it up and keep it growing. With most young animals it is largely a matter of feeding them liberally from now until winter sets in. This is easily done and young animals started into the winter in thrifty condition defy cold and grow when others fall away. The cost of feeding is greatly reduced on breeding stock of all ages that carry fall-made fat; growth the first winter can scarcely be made without its aid. A blanket of fat made during the mildly cool fall days when the system readily makes fat out of feed if it has the oppotunity will prove a mighty aid in cutting down the amount of feed needed as the winter advances.

Save The Dairy Cows

Dairy farmers can perform valuable service by increasing their output of products during the coming months. In preparing to meet the impending food shortage, it is just as important to make provision for an adequate supply of milk, butter and cheese as for breadstuffs. The dairy herds of the country must be preserved. Our earnest prayer is that dairy cattle shall not be slaughtered promiscuously for beef, for there is no other animal that can convert the roughage from farms into such nourishing and necessary foods and do it so economically. Unless plans are made to preserve the dairy cow and the dairy heifer our food supply will soon find itself in distress.

In the struggle to economize on grain feeds the dairy farmer must not lose sight of the importance of having a large supply of roughage, because that means enormous quantities of grain can be used directly in human consumption while the dry cows, young stock, and work teams can be maintained more largely on the secondary products of the farm. No one can tell just how great the shortage of grain will be this year until the crops are secure or what hardship this shortage may involve, but it is every dairy farmer's duty to employ every means possible to economize on grain feeds. The silo lends itself admirably to any scheme that involves the conservation of the roughage supply. More silos should be erected and every ton of good roughage preserved in condition fit for dairy cows to convert into human food.

"Second Line Defenses"

The feeding of by-products will not only pay immediate profit, but it will help to increase the total food supply. In these days of food shortage it may pay to economize somewhat in feeding some of the less profitable cows, but the best cows must be fed some grain to keep up profitable milk yields. The cows that fail to respond to good care and liberal feeding should be put in condition for market. Every promising heifer calf should be raised to help maintain the supply of milk and its products that are sure to be needed if present conditions continue for two or three years. Every healthy bull calf should be made to contribute something more than its hide to the welfare of the country. If every dairy farmer would plan to raise and fatten one or more steers it would help out wonderfully toward maintaining an adequate supply of beef, and entail no hardship to the farmer. Even the manure from the dairy herd is needed to help to make good the deficiency of fertilizer needed to grow crops until it is possible to get chemicals from the warring nations. The dairyman should mobilize his feeds, cows and young stock to build up a strong second line of defense in conserving and increasing the food supply of the country.

Never were conditions more favorable for selling scrub bulls and boars. Such animals command higher prices for beef and pork than they ever have before. There should be a heavy movement of old, low-caste decrepit males toward the stock yards now that prices for that sort of stock are at a high level. And their places should be taken by a well-selected lot of pedigreed young males from the herds in the country that are bred in blood which has proved its value where it has been properly handled. The accepted time to cash in on scrub males is right now when they will sell for more than enough to pay for better young males to put in their places. Such a move on the part of the farmers of the corn belt would not only deplete the region of inferior males, but it would increase the supply of meat food and mean the saving of the good blood so necessary to put the meat making and dairy business on a higher plane of efficiency.

More sheep are needed on our farms. There is world shortage of wool, and conditions are sure to become more acute as more clothing is needed for the army and navy. A few sheep on dairy and stock farms would help out more than any material increase in the number of big sheep farms. Sheep are adapted to conditions where conservation of grain and waste feeds are practiced. If the millions of acres of waste land thruout the eastern and southern states were properly fenced and the sheep protected by drastic dog laws there would be no shortage in the meat supply of today.

Even the little farm hen must contribute to the country's food supply. Feed the young pullets and molting-hens enough grain to keep them thrifty until winter comes. Give the flock plenty of grain feed and good care from now until winter sets in so that they will begin the winter in condition to pay a profit. Large poultry farms have sold their laying stock down so close that the bulk of eggs and fowls must come from the farm flocks. Practice rigid culling, keep every hen that is worth feeding another winter. Fatten old hens, inferior pullets and surplus males so that they will go on the market in good condition to bring satisfactory prices. The country is short of good poultry meat and there is always a loss in marketing immature, poorly conditioned fowls.

Every farmer should make a special effort to gather and store all the fruit and vegetable crops his farm produces. The waste of food crops at this time of need is nothing short of criminal. Early fruits that do not find a ready sale may be put up in cans, glasses and jars, and late fruits put into storage. Thin-skinned vegetables, like potatoes, keep best when stored in a dark, cool cellar. Apples, grapes and winter pears keep best when put in boxes or barrels after being well sorted and wrapped in fine paper. Squashes and punmpkins keep best stored in a dry place where there is no danger of freezing. Carrots, beets and turnips may be packed in boxes and covered with a layer of sand. They will provide a highly palatable variety in the winter when you bring them fresh from the boxes in the cellar. If the temperature of the cellar is kept at about forty degrees fruit and vegetable crops will keep well. All crops put into storage should be carefully handled, as bruised specimens do not keep well.

All of the arguments for having a vegetable garden to cut down the high cost of living and contribute to the country's welfare may be advanced with even greater force and reason in favor of carrying the supply right on thru the winter until it is time to start the garden for another year. Of course, the canning factories put up many sorts of vegetables in excellent ways, but they cannot control the time of gathering and canning—two factors that are very essential in having vegetables in the winter that compare favorably with the fresh supply during the summer.

Farm women will find abundant opportunity to render valuable and timely service by helping to conserve the food crops for winter use. Canning houses thruout the country have notified wholesalers that their deliveries will be far below normal. Tin plate has doubled in price, which means that empty cans cost more. Glass, too, has gone up in price. So that now when every day counts the prudent housewife should be putting up everything she has room for in cans, glasses, jars and crocks. She will have no trouble in finding good markets for all the surplus she may have. Even young children, with bottled-up energies, can help in gathering fruits and vegetables for mothers and big sisters to put up for the winter. Such work will not only give them better ideas of thrift and economy, but it will make better men and women of them. Furthermore, there is nothing more conducive to the entire family's sense of thrift and independence than to furnish a material part of the food from the farm, not merely for a few months, but for the entire year.

Some successful eastern farmer has said that the farmer without a silo should be arrested. Surely he should, and so should the farmer without a brood sow.

A 5-10 TRACTOR ON DOUBLE DISK DOES RAPID WORK.

By the Way

By

Father Penn

A city man said upon returning from a trip to the country the other day that he was impressed with the idea that farmers were becoming cold-blooded. He then went on to relate how, when he went into a neighborhood where he used to be well acquainted, no one asked him to stay to dinner, whereas he had plenty of invitations when he drove out some years ago.

Another man told of a recent trip to a picnic where good things galore were to be seen, but the farmers all gathered gleefully about their spreads while he stood up to a lunch counter and ate "hot dog" sandwiches and drank pop, altho his mouth was watering for fried chicken, home-made buns and iced tea.

Another instance was told by a city man who, when out automobiling, had the misfortune to need towing to the next town. Going to a nearby field where a farmer was mowing he hired him to unhitch from his mower and haul him in. For this trip of two miles the farmer charged him two dollars and fifty cents which the city man thought was outrageous, considering the short time required.

There has been much said in prose and in poetry about the hospitality of country people. There are those who have thought that the spirit of the man in Foss' "House by the Side of the Road" was the universal spirit of the countryman. Is it a mistake? Is it true that country people are becoming "cold-blooded" and are losing that old-time generous impulse to be helpful and charitable? Some things would indicate that they are, but, if so, is it from necessity, imitation of the rest of the world, self-defense, or from greed? People glibly repeat the statement "Times have changed", but forget that the change necessarily affects the country as well as the city.

Farmers are not the independent, isolated people they once were. None can live to themselves alone, and the money out-go and income must be watched almost as closely as in any other business. Time was when the casual visitor, the storm-stayed or other unfortunate traveler was freely helped and sent on his way rejoicing; in fact, the spirit of the Good Samaritan was invariably found in the country, and the present-day traveler—knowing this—is disappointed and chagrinned to find that he must pay for what he gets when traveling thru the country. He is likely to charge it to "cold-bloodedness" when as a matter of fact it is simply a business necessity.

"Time is money", on the farm as elsewhere, and the successful farmer finds that it requires about all the available time he has to do the work which must be done. Not only that, but the products of the farm, garden and orchard must bring cash with which to meet the thousand and one cash demands which were not known by those of half a century ago. Added to these financial reasons may be added the fact that visitors and passers-by and stranded travelers are no longer interesting novelties in the farmer's life as they once were, but they "happen" with such frequent regularity that they would be a burden if the free hand were extended on every occasion.

Again, country people are becoming more acquainted with city ways and methods of doing business. The farmer finds when traveling from home that if he wishes a drink of water he must slip a penny into a slot machine; he finds that the town people in the town where he trades have taken out their hitching posts along the street; that his friend, the store keeper, expects him to make his purchases and go—never inviting him to stay to dinner. All these changes are probably for the better, but the townsman must remember that the necessity for the change exists also in the country.

The farmer finds no place where he gets something for nothing. On the other hand, he finds the air full of reasons why the things he buys are high and going higher. He also has government advice and encouragement to grow more, save more and help feed the country by adopting better and more costly methods. Added to the cost of supplies and running expenses is the increase in taxes, cost of education, home equipment, etc. All this makes a continuous drain on the money pile which does not permit him to neglect any source of honest income within reach.

I hope that however good these and other reasons for greater "closeness" seem to be, the compelling force of circumstances will not drive out of the country heart its natural tendency towards charity and hospitality. I do not believe that it has lost it yet. I believe there is as great willingness to help where help is actually deserved and needed as there ever was; that a genuine visitor is welcomed as gladly as in the olden days, and that the milk of human kindness still flows. The world cannot do without the levening influence of this spirit, and much less can country people themselves afford to close up the well-springs of generous hospitality. It has been the one great, big, distinguishing difference between the town and the country, and hard work and business demands must not be allowed to squeeze the heart dry.

Eliminating Stored Grain Wastes

In the present crisis it is imperative that every effort be expended toward the elimination of each avenue of waste in our grain stores. Damage done stored grains by insect pests is considerable on every farm. One of the most satisfactory methods of destroying such insects is by the use of carbon bisulphid as a fumigator.

The amount of carbon bisulphid necessary to obtain good results varies, but at average temperatures (70 degrees F.) four pounds of the liquid will be sufficient to treat 100 bushels of grain. The cracks and doors should be made as tight as possible before the fumigation begins. Shallow pans with large evaporating surfaces should be distributed over the top of the grain. As the vapor of carbon bisulphid is heavier than air it will gradually permeate to the bottom of the bin.

It must be remembered that the fumes of carbon bisulphid are poisonous and one must not enter the bin. The fumes are highly inflammable and explosive and for that reason all fire and light must be kept away while fumigation is in progress. At temperatures below 60 degrees the results are unsatisfactory regardless of the amount of carbon bisulphid used. Thirty-six hours of fumigation will not hurt the grain and is a sufficient length of time to kill all insect pests. The doors and windows of the bin should be open for two hours before entering.

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PHILADELPHIA, PA., OCTOBER 13, 1917.

LIBERTY LOAN

The second issue of Liberty Loan bonds is on the market and all citizens are asked to invest their money and help finance the war. The bonds give opportunity to many who can not contribute in any other way. They are the safest investment possible, paying four percent interest, and they yield the principal directly to the conduct of the war. They are issued in small denominations and will make an excellent opportunity to start a savings account. From a business as well as a patriotic sense it is well to heed the call to "Buy a Bond."

* * *

UNLOAD POOR STOCK

With beef prices on milk cows running so close to the dairy prices, the present is a most favorable time for unloading the shy producers. Many dairy farmers hesitate to cut down their herds even when convinced that some cows are not yielding as large a profit as they should, because the difference in the price that they can get for such cows and the price of better cows has been out of reach. There are numerous reports now of fifty-pound, and near fifty-pound, cows going at little better than beef prices. Here is a chance for the man who has confidence in the future of the dairy business and wants to build up the quality of his herd.

* * *

BLACKJACK POLITICS

The revelations in the gang methods used in the politics of Philadelphia, as revealed in the court hearings of last week, ought to be of first interest to all citizens of the state. The hearings are not completed, and it is not just to convict any official or faction on preliminary testimony. However, enough has been brought out to reveal the condition of gang politics, and it must not be overlooked that the same gang has been the predominating influence in state politics. The shame of the "fifth ward" is the shame of Philadelphia, but the duty of ridding the state of the perpetrators of that sort of political manipulation rests with the state as well as the city.

* * *

DAIRY SHOW

All dairy trails will lead to the National Dairy Show at Columbus, Ohio, next week. The closing day for entries for cattle indicated that the cattle show will be the greatest yet held. There will be twenty-two herds of Jerseys, representing every section from Connecticut to Texas. There will be thirteen herds of Holsteins, twenty herds of Guernseys and nine herds of Ayrshires, from all parts of the country. In addition there will be eight national conventions of dairy organizations and one state meeting. A monster mass meeting of the American Dairy Industry will be held on Monday, October 22, which is to be known as Hoover Day. Other bodies meeting are American Jersey Cattle Club, American Dairy Science Association, International Milk Dealers' Association, Ohio Association of Creamery Managers and Owners and The International Milk Dealers' Association. A complete dairy equipment show every day and a horse fair every evening will round out the greatest dairy event of the country.

* * *

SAVE THE CORN CROP

There is more waste in the corn crop thru careless harvesting than in any other crop grown in the East. A drive thru almost any farming community in the late fall or early winter will show shocked corn or shocked fodder standing in the fields. Wheat and oats are carefully housed or stacked for early threshing, because injury to both grain and straw is rapid and complete. Fruits and vegetables are carefully stored for the same reasons. Corn will stand well into the winter without complete loss of the fodder and with comparatively little external evidence of injury to the grain. But both corn and fodder must suffer when long exposed in the field. Both suffer in feeding quality and any undue exposure means loss to the grower.

Labor is scarce on the farm this fall, and there will be many cold fingers before the corn crop is husked and stored. But a corn crop was never more precious than this fall. It never paid better in the markets of the country than it promises to pay thru the coming winter, and it was never so much needed in the diet of the world as it will be thru the coming year. It will cost an effort to get it safely under cover, but it will be an effort worth while where labor can be secured at anything like a reasonable price.

* * *

ARE FARMERS HOARDING WHEAT?

Heretofore, conditions permitted the prompt threshing and marketing of wheat, and the elevators and mills have been fully supplied at this time of year. The fact that wheat has not been marketed so fast this year has lead many to believe that farmers are purposely holding, or "hoarding", their wheat for a possibly higher price. All kinds of unkind things have been said about this condition and many unjust charges made about the farmer's selfishness and lack of patriotism.

While there may be some hesitancy to be in a hurry about selling on the part of some, the real cause of the delay, according to reports, is the universal shortage of farm labor and the effort to prepare land for next season's crops. Threshing has been delayed because of this to a later date than is usually the case, and since it is generally understood that the price set by the government is likely to be the price for this year's crop, we do not believe that any considerable number are "hoarding" for a higher price.

* * *

FARMERS AND OTHERS

All kinds of business-men—banking, grocery, commission, manufacturing, etc.—have been holding conventions during the past summer and without exception have adopted resolutions declaring undying loyalty to the government and its purposes. We have no desire to question the sincerity of any of them. We believe that they mean all they say, but we do criticise the attitude of the city papers in so highly complimenting the men and resolutions of these conventions while harshly criticising the farmer and his alleged lack of patriotism.

So far, in the progress of the great struggle, the farmer has made good. He has done "his bit". He has responded to the call for increased food production and produced record-breaking crops with no previously guaranteed price or profits. Can others say as much? Was the Liberty Loan subscribed to by our moneyed men with as little coaxing and cajoling? Without conventions, oratory, or honeyed press comment farmers have toiled early and late, without sufficient help, and have met the needs of their country.

During these strenuous times it has not been necessary for the government to set prices in order to prevent extortion; neither has the country heard of "war babies" in relation to returns on farm investments. We quote the following from an editorial in a commercial journal commenting upon the fact that the Government and the iron and steel industries had agreed upon prices:

> "Profits to the producing interests will be much less in some cases than they might have been without this control, but they will be sufficient and steady and equitably adjusted. . . . One of the gratifying things about this agreement is the spirit of patriotism and hearty support of the government's task displayed by the great mining and manufacturing companies and the transporting and distributing agencies. . . . While it is a system of doing business which can not survive the emergency that brought it into being, the experience bids fair to convey a useful lesson. . . . ."

Why should not a system of business which is fair and just and which returns reasonable profits continue after the war?

* * *

NURSE THE NERVES

There is great need during these strenuous times to guard against injuring self by excessive work, thought or feeling. Most of us have never passed thru the experiences we now face. Our lives during the past two generations have been rather care-free and independent as a whole. True, we have had local and personal sorrows and troubles, but we have had no national crisis which has called for great sacrifice in every direction, and which at the same time greatly increases the physical burdens of life, by adding toil and subtracting pleasure. We have noticed the tendency in ourselves to become over-wrought. We have felt the nervous tension increasing, and have seen the same thing in others. Some of this may be good for us, but if it goes too far we are injured mentally and bodily and our lives are made inefficient.

It will not pay to try to do more than we are able, nor to eliminate all recreation and pleasure. We can be sensible without becoming too serious. We can work hard without going to excess. We can save without skimping in the necessities. Altho the hours may be long and the returns comparatively small; altho the times may at the moment look dark ahead, and the gloom be deepened by the absence of some loved one, it is our duty as well as our privilege to seize upon every bright ray that shines into our lives, and they are many. We owe it to the cause we would serve; to the absent ones in the harder service; to ourselves. Certain things—food, shelter, sleep—we well know are essential to life and good health. It has taken a long time and many severe lessons for the race to learn that recreation is also necessary for best health and longest life. So, in spite of hardships and worry, take time to laugh and play. In the slightly modified words of a popular motto,

"Smile, dern you, smile."

* * *

MILK PRICES

October 1 saw an advance in milk prices in a number of sections of the country. The Dairymen's League led with the conclusion of a two months' contract which will yield the producers about seven cents per quart for their milk. The fact that the New York dealers submitted to the advance without a more vigorous fight is evidence of the strength of organization.

But we believe that the time is coming soon when these organizations will need to give attention to the enlargement of organization plans if they are to serve the best interests of their industry. When the price was last advanced in the Philadelphia market, it is claimed that consumption fell off from 15 to 25 percent in the various sections of the city. It is further claimed that this loss has never been recovered. Figures are not available showing the effect in the New York market, but it may be assumed that results are at least comparable. If so, every time the price is advanced to the dealers and they are permitted to merely pass the advance on to the consumers, the producers' business is hurt to just the extent that consumption is curtailed. In other words, if price advances must mean reduction in consumption the dairymen suffer the ultimate loss.

It may be claimed that the dealers are taking too large a share of the price for the service they render. If so, their operations must be checked by some sort of regulation that does not now exist, or the producers' organization must enter the field of distribution. Neither producers nor dealers can ignore the consumer and the price he must pay. The consumer will go along only so far. He will kick all the way, but when the price of any food commodity gets beyond what he believes the food value of that commodity to be, he will stop buying. And it is well known that when a considerable number of consumers leave any staple food commodity for a time, they never all come back. Substitutes are never quite so good as the article they are substituted for, but some of them are good enough to win some permanent friends. It is mighty hard to find a suitable substitute for milk, but the figures show that some people are already finding it, and as the price advances, more will find it.

This is a feature of the future milk market to which the producers' associations must give consideration. It can be met by reducing every cost between the drawing of the milk from the cow to delivering it to the consumer's door.

HARRISBURG NOTES

Crops.—Complete September reports on general crop situation reveal several interesting things. Early hopes regarding corn have been knocked out by frost and short cultivation. The latter condition is directly due to the lack of labor and is significant of what may happen next year when still more men are taken from the farm because of industry or military service. Oats will be a bumper crop in almost every county. Wheat figures are satisfactory with expectations that the increased acreage may go 10 or even 12 percent above what was sown last year. This would mean 125,000 more acres in wheat. Buckwheat was heavily damaged by frost September 10. Potatoes, farm raised, will fall short of expectations. Blight, rot, lice and weather all worked against potatoes. The labor situation is critical but farmers are taking a chance this fall and moving to get their crops started in the hope that things may be better.

Preparing Dog Law.—A synopsis of the dog license code, which becomes effective January 1, is being prepared by Secretary of Agriculture Patton to be sent to county commissioners and every agricultural organization. The dog license law is expected to rid the state of thousands of worthless and ownerless dogs. The most important feature is that dogs must be within enclosures at night.

To Supervise State Farms.—The plan to have the state agricultural advisors supervise the farms owned by the commonwealth and surrounding and supplying its insane and other hospitals is to be extended to include the live stock. The scheme looks well and if carried out could be made a wise more for economy.

Favor Test Cases.—Members of the State Compensation Board are of the opinion that there should be appeals taken to the courts to settle questions which have cropped up in relation to agricultural labor. The failure of the last legislature to enact amendments to the compensation law is being criticised in some quarters as a mistake, altho it was undoubtedly the desire of the great bulk of employers to have the act stand the test of time.

Paying Schools.—Payment of the annual allowance to the school districts of the state has been started at the Treasury and will be kept up steadily, while some considerable payments to counties for the "dirt road" maintenance account will be sent out this month.

Consolidations Tried.—The start of the school term has afforded means to try out some consolidation ideas in a number of rural counties and reports are being awaited as to costs. The transportation means are not difficult to obtain just now, but the question is how things will work out in winter and during the war scarcity. A number of schools were enlarged to take care of children from outlying districts, while some townships united in new schools.

Snyder and the Clerks.—Auditor General Snyder has caused some chilliness in certain parts of the State Capitol by insisting that he has authority to name clerks under the inheritance tax laws and is doing it without consulting the state administration. As the men he has selected have not been aligned with the governor and his allies there has been much talk and Attorney General Brown is reported as desirous of reaching some understanding. Every time a new tax law is put on the books it means more places and the vexed question is who shall dispose of them.

Officers Given Leave.—The United States Government is drawing pretty heavily upon the professional men connected with the Department of Agriculture and not only State Veterinarian Marshall but several of the men active in his department have been given leaves of absence to accept commissions. Dr. Marshall is in command of important work relative to the protection of the animals of the army, a work for which he is well fitted because of his observations abroad.

Boroughs Lining Up.—A number of the boroughs of the state have accepted the invitation of Highway Commissioner O'Neil to unite with the commonwealth in the construction or improvement of roads on a "fifty-fifty" basis. There were nearly forty boroughs addressed on the subject and half of them have responded. It may be added that several counties have also come forward with offers to pay their shares of getting rid of toll roads, notably Bucks, Montgomery, Chester and Lancaster, while the only toll road in the western end, that in Westmoreland, may go next year.—Hamilton, Harrisburg, October 8.

NEW YORK NOTES

Example for Farmers. — Delaware County is the leading dairy county of the state. The farmers were dissatisfied with party tactics, and decided that only a dairyman could satisfactorily represent dairymen. Last June the county grange appointed a non-partisan committee to designate a non-partisan candidate to represent them for Member of Assembly. The committee selected J. Clark Nesbitt, and proposed to the various organizations of the county to vote for him, and the way seems to be easy now for Delaware County farmers to answer the politicians at Albany who forced legislation on them last year that they did not want.

New York Wheat Prices. — Genesee County millers report that they are paying $2.10 for winter wheat to farmers, just as it is threshed. The government price of $2.20 was for No. 1 hard northern wheat, f.o.b. Chicago, or $2.25 f.o.b. Buffalo rates. None of the wheat grown here grades No. 1 hard northern. At a recent meeting of dealers and millers of western New York, held in Buffalo, many samples of state wheat were graded by the government inspector. Out of a dozen samples only one or two graded No. 2, seven or eight graded No. 3, others No. 4. A very few lots will grade No. 2 red wheat at $2.20, while most of the white wheat contains quite a bit of moisture and grades No. 3.

Market Events.—Poultry reached the high water mark in Syracuse public markets this week, going as high as 28 cents alive. Tomatoes have sold from 80 cents to $1 per bushel for finest grades, and as low as 50 cents for seconds. Tomatoes at retail elsewhere in the state have been very high. Peaches are in great demand at very good prices. More people have gone to the orchards than ever before, picking their own fruit at $1 to $1.25 per bushel. Eggs are 48 to 52 cents wholesale.

Break in Senate Deadlock. — The Senate reconvened this week and again rejected Perkins as chairman of the state food commission. Then Governor Whitman named John Mitchell, well-known as a labor leader. His probity and sound judgment were of such character that the Senate indorsed the appointment unanimously, also that of President Jacob Gould Schurman of Cornell University, and C. A. Wieting as other members of the committee. Final adjournment of the extraordinary session was taken immediately. Mr. Perkins issued a statement in which he said that he had fought the Dairymen's League openly, constantly and vigorously, and that as the producers were against him the consumers of New York City should have been for him. When the producers and consumers reflect on Governor Whitman's insistence on Perkins' appointment as state food administrator, it would appear that he has lost some of the good opinion of the people gained during last season's legislative activities.

Crop Notes.—Two dollar onions are predicted at Canastota, as September prices are highest ever known for that month in this great onion section. The entire crop is crated already in some centers, the estimate for this section being about 250,000 bushels, or 50 percent of normal. Large onions are scarce while whole small onions and medium stock are abundant. At Watertown potatoes have reached 90 cents per bushel, while at Oswego a break is looked for at $1.20 for early stock. Apples are high and scarce in most sections. The U. S. Bureau of Crops records a gain in the production of wool of 683,000 lbs., but in New York State the industry has largely been given up. The price has risen in the past year from 35 to 65 cents per pound. This week 30 sheep out of 50 valuable purebreds owned near Auburn were killed in one night and ten more had to be shot because of injuries. A scarcity of eggs is reported from all sections. Onondaga County poultry has nearly all been sold in the markets, some New York State Fair stock having gone at 25 to 30 cents alive. Hay has advanced to $16 for prime No. 1 in the Auburn market.

State Sunday Schools Convene.—At Syracuse on October 16, 17 and 18 over 3,000 delegates from the Sunday Schools of the state will meet. The program is distinctly national and patriotic in make-up, and seven churches will be used to house the various sessions.

Cornell to Train for War.—Cornell University offers specialized courses to fit men for war service. The manufacture of munitions and high explosives are features of one section in chemistry. Bridge building, military surveying, navigation, water supply and waste disposal in camps, heath control, military construction and other practical war courses have been arranged for immediate use.

Practical Organization for Potato Growers.—Cayuga County farmers to the number of twenty formed a potato growers' association one year ago, and they now realize a profit of $2,500 as the result. At their fall meeting it was found that 2,500 sacks of certified seed potatoes for Long Island growers were available at 50 cents a bushel above the average price for market potatoes. These potatoes have all been inspected and guaranteed perfect. The price has been fixed at $2.00 per bushel for certified seed by these growers, who are in co-operation with the growers of Franklin and Clinton Counties.

Two Valuable New Laws.—The last legislature passed a law, effective September 1 prohibiting any boy under 18 years of age from smoking in any public place, and any boy violating the law will be deemed guilty of a misdemeanor, subject to arrest and punishment. This is the first legislation that gets after the minor himself, the dealers heretofore receiving the only restriction. The new federal regulations stopping the manufacture of liquor except for commercial or medicinal uses is already operating very beneficially in every town and city.

Cabbage Market Developing.—Late cabbage is as yet in an unsettled condition, yet buyers have offered $15 per ton. Retail buyers have offered $1.50 per cwt. for early stock to date. Contract price for canneries were about $8 per ton in the western parts of the state. The crop is very immature as yet, owing to the late planting and apparently a short crop and much will depend on the weather of the next few weeks.—F.

NEW JERSEY FARM NOTES

Farm Labor. — Governor Edge and Acting Adjutant General Gilkyson have asked Provost Marshal General Crowder at Washington for permission to immediately mobilize the balance of New Jersey's quota under the draft, about 8,000 men, for temporary service of a voluntary nature in assisting the farmers with their crops. Camp Dix, at Wrightstown, the training ground for the Jersey National army men, will not be ready to receive the 8,000 men until early in November. In anticipation of call to camp in early October, many of the men drafted prepared to leave their occupations and the Governor points out that for them to remain idle a month or more would not only be a hardship on many, but an appalling waste of man-power just now. If Washington gives its approval, the 105 local exemption boards in the state will be asked to certify lists of all drafted men volunteering for farm work. The names will be given to the Federal-State Employment Agency, of the Labor Department, where the farmers may apply and obtain the necessary labor upon agreement to pay the customary farm wage. Acting Adjutant General Gilkyson said reports are that tomatoes are rotting on the vines and potatoes in the ground, because there are not sufficient men to pick and dig them.

Sweet Potatoes. — Gloucester and Cumberland are reported as among the leading counties of the state in the production of sweet potatoes. They can now be bought by the basket or bushel direct from farmers at about the same price as white potatoes. The Sussex County Fruit Growers' Association has adopted the standard grades for apples which were proposed and approved by the last legislature. This organization will sell some 3,000 barrels graded to standard and marked for just what they are.

Crop Damage.—Frosts during September damaged late vegetables in the northern part of the state and cool dry weather has retarded the maturing of all late crops, according to report of the Department of Agriculture. There is a general scarcity of desirable farm labor. The high price of feed is causing all poultrymen to reduce size of their flocks. Buckwheat has been injured by dry weather and frost. Cranberry crop was cut 20 percent by frosts of early September. Wheat and rye acreages seeded show a slight increase over last year. Cabbage worms have been unusually abundant. Following is summary of crop conditions at beginning of the month: Oats, average yield an acre, 32 bushels of 32 pounds; corn, condition, 83 percent; buckwheat, condition at time of harvest, 83 percent; sweet potatoes, 80 percent; apples, 62 percent; pears, 53 percent; peaches, total production, 90 percent; tomatoes, total production, 80 percent; cabbages, total production, 87 percent; cranberries, condition, 73 percent; egg production for September (commercial plants), 25 percent.—L.

FARM MEETING CALENDAR

Eastern States Exposition, Springfield, Mass., October 12-20.

National Dairy Show, Columbus, O., October 18-27.

Sheep Show, Utica, N. Y., October 30-November 1.

American Pomological Society, Boston, Mass., October 31-November 4.

Association of Agricultural Colleges and Stations, Washington, D. C., Nov. 14-16.

Short Courses in Agriculture at Rutgers College, New Brunswick, N. J., open Nov. 20.

International Live Stock Exposition, Chicago, Ill., December 1-8.

New Jersey Horticultural Society, Newark, N. J., December 10-12.

Pennsylvania State Grange, Williamsport, Pa., December 11-13.

Maryland State Grange, Bell Air, Md., December 11-13.

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The Dairy

Interstate Ass'n. Notes

Steady Price

No milk price advance was announced by the Interstate Milk Producers' Association on October 1. It is understood that action is not delayed for any definite time, but the matter of price is merely held under advisement for the present. A number of conditions unite to add uncertainty to the immediate future of the milk market. It is fully appreciated that the present cost of milk production justifies a higher price to the producers. On the other hand, the fall has been particularly favorable for the production of milk. Pastures have been very good, and there is apparently a larger supply of milk than usual for the time of year. This supply is a most important factor. Export demand for condensed milk is good, as indicated by the figures given elsewhere on these pages, but condensaries represent that they are getting all of the milk they can handle, and any surplus at this time would be a burden to them.

The condition regarding the feed market is uncertain. The Federal Food Administration has asked all dairy organizations to suspend judgment for the present and give opportunity to work out some plan for the alleviation of conditions in the feed market. It is not known just what may be done, but if with a large corn crop assured and some control of the mill feed market, retail prices to dairymen can be materially reduced, it will prove a factor in the future milk prices.

Again, there is a local condition in the Philadelphia market that must be reckoned with. Reports of the Commission investigating the milk business show that the dealers in Philadelphia are handling milk on the smallest margin found in any of the large eastern cities. This margin is held by the dealers to be the smallest upon which they can do business. Any advance therefore in the producers' price must be passed on to the consumers. Reports on the effect of the last price advance indicate that consumption decreased from 15 to 25 percent in the various sections of the city, and this loss has never been recovered. If a further advance at this time should result in a similar or greater reduction, it would further aggravate the surplus milk problem.

These are some of the factors that the Interstate body must consider in the determination of fall prices. It is understood that they are weighing each carefully, and are merely postponing action until the full weight of each may be more definitely determined.

TWO-YEAR-OLD GUERNSEY MAKES OVER 700 LBS. BUTTERFAT

Follyland Nancy 52457, a two-year-old Guernsey heifer, bred and owned by I. C. Blandy, of Washington Co., N. Y., recently completed an official year's record of 12,270.9 pounds of milk and 712.60 pounds of butterfat, her average test being 5.81 percent. Three weeks after finishing her record she dropped a fine heifer calf, which is now growing well.

Her dam, Langwater Nancy 27943, has three official records and is now making her fourth. As a two-year-old she produced 630 pounds of butterfat; as a five-year-old, 735 pounds and when six years old, 862 pounds of butterfat. During the first six months of this, her fourth record, she has to her credit 556 pounds of butterfat—three pounds more than the World's Champion, Murne Cowan 19597, produced during the same period.

Follyland Nancy ranks third in butterfat production among two-year-old Guernseys.

FOLLYLAND NANCY 52457, RECORD TWO-YEAR-OLD GUERNSEY WITH 12,270.9 LBS. MILK AND 712.6 LBS. FAT.

LATE DAIRY EXPORT FIGURES

Figures showing the extent to which the United States has lately been exporting dairy products to Europe make pre-war records seem insignificant. Here are some facts based on compilations of the U. S. Food Administration which point out the striking increase in our trade.

Exports of condensed milk, which for a three-year period before the war averaged 17,792,579 pounds annually, have increased to 259,192,213 pounds. This figure is for the fiscal year ending June 30, 1917. The European Allies received 2.27 percent of the condensed milk exported from this country in the three pre-war years. In 1917 they received 57.2 percent, or considerably over half of the total.

Cheese exports for the three pre-war years averaged 3,788,065 pounds. For the year ending June 30, 1917 they reached 66,087,213 pounds, a seventeen-fold increase.

Exports of butter, which for the three years previous to the war, were 4,457,144 pounds increased in 1917 to 26,835,092 which is more than a six-fold increase.

It is noteworthy that Holland took 84.9 percent of all the condensed milk shipped by the United States to European neutrals. However, a large pro- on of the amount, 15,134,084 ds in all, consigned to neutral tries during the past fiscal year estionably reached Germany thru ect channels.

viously the enormous increase in dairy exports calls for a statement ome production and conditions. Two s are required to raise a dairy cow five years to bring her to maximum . Under normal conditions, the try was prepared to go on produc- milk in proportion to the demand. number of dairy cows in propor- to the population has varied but in the past six years. In 1911 the was 22.3 cows per hundred peo- this year the ratio is 22.1.

t the ravages of war now call for ompt increase of dairy cattle in countries able to raise them. The d's total number of cattle has al- y decreased more than 28,000,000. England, France and Germany, the s are being deliberately sacrificed pply the immediate necessity for . The embargo is keeping fodder Holland to a degree that will to a considerable decrease in her s. Judging from all indications, sacrifice of dairy animals will be greater as the war continues. And responsibility of supplying Europe dairy supplies will rest with in- ing gravity on dairymen of this try.

ILK COMMISSION REPORTS

burgh Producing and Distributing Costs

e Pennsylvania Milk Commission g in conjunction with a similar mission appointed by Governor Cox, hio, met in Pittsburgh on August to hear the evidence and testi- of milk producers and distributors lk and milk products. Chairman Carrothers, of the Pennsylvania mission, issued the following pre- ary report October 1.

e Commission took testimony and ved reports from a number of ical dairymen, representatives of sylvania State College, Ohio State sion Service and the Hickory testing Association. Actual book nts were submitted by dairymen ow what it cost them to produce and several of the largest distri- s in Pittsburgh presented figures their books to show the cost of ing the milk after it was received the producers.

re was only slight variation in the ony as to the cost of production. was wide variance, however, in manner in which the cost reports made, and it might be added that west cost of production was shown Hickory Cow-testing Association. report covered 19 herds of cows produced an average of 6,498 s of milk to a cow. It would be fair to the average producer mpare his cost with that of these d herds, as the average produc- over the state is between 4,000 ,500 pounds to a cow.

s, therefore, only fair to the aver- airyman and the tenant farmer, into consideration the conditions which they labor, to acknowledge hey are not producing milk at the cost as the selected and carefully herds. It is, however, a strik- xample of what can be accom- l in the dairy business by co- ion among farmers and by in- ng the quality of the herd by fol- the most approved methods of ng.

find that the average cost of ction in the Pittsburgh district, the testimony presented as a entative record of the cost of the Pittsburgh supply, to be at the present time, 7.45 cents per quart. This amount includes the freight charges which seemed to be, in general, paid by the producer and must therefore be charged against production as no marketing costs were included in the inquiry for producers. Some of the reports carried a 10 percent management fee and others included a 10 percent profit fee, all of which are included in the total cost of production and which we believe to be the maximum figure to be considered, including all profits.

The Commission was furnished with statements by representatives of the largest distributors of milk both retail and wholesale, in the City of Pittsburgh, including the Reick Company, the McJunkin-Straight Dairy Company, and the Ohio and Pittsburgh Milk Company. These statements showed the cost of handling the milk between the producer, or from the time it arrived in Pittsburgh until it reached the ultimate consumer. One firm showed a cost of 21.58 cents a gallon and another 26.224 cents a gallon, an average of 5.975 cents a quart. The Commission was not furnished with sufficient evidence on which to base a report relative to the by-products, or of the manner, in full, of handling their surplus. In Philadelphia the average cost of handling and delivery amounts to about 3.9 cents a quart. In New York the handling and delivery costs average 6.5 cents a quart.

It may be noted that the Pittsburgh dealers deliver to their consumers, milk guaranteed to contain 4 percent butterfat, while the quality as purchased from the producers averages about 3.5 percent butterfat, thus necessitating the increase, mostly, of one-half of one percent butterfat, which they claim costs them about 2.5 cents per gallon.

It is not the purpose of this commission to go into details of the price paid by the distributors to the producers, but to bring the two active agencies together so that a fair price may be established for the consumer. The Commission is preparing a full detailed report of the investigation and its findings.

WHAT MAKES YELLOW BUTTER?

Everybody likes yellow milk and butter but sometimes the color is absent. This absence is especially noticeable in butter. Chemists investigated the cause of this variation in color as long ago as 1830 but it remained for the dairy department of the Missouri College of Agriculture to determine the real source and nature of the natural color of dairy products. Three years of investigation not only showed the cause of the natural color but made clear the nature and source of the yellow color that is found in the body fat of cattle. The color in the tallow is exactly the same as that found in butter. Cows that give yellow butter have yellow body fat while those which give whiter butter have whiter body fat.

The coloring matter in both cases is carotin, so called since it was first found in carrots. The yellow color in milk and butter is not made by the animal but comes from the feed. This coloring substance is found in all green leaves, which accounts for the yellow butter in summer. By continued use of feeds free from coloring matter it was possible, in the experiments conducted by the Missouri College of Agriculture, to obtain white butter from a Jersey cow. As a result of the work a list of feeds that will give yellow butter and those that will not is available.

National Dairy Show
and Horse Fair
Columbus, Ohio, October 18 to 27

The One Big Agricultural Show

More Cattle Exhibits
More Dairy Exhibits
More Farm Machinery
More Motor Trucks
More Milking Machines
More Cattle Demonstrations
More Creamery Machinery
More Barn Equipment
More Farm Tractors
More Dairy Machinery
More Students' Judging Contests
More Competitive Displays of Dairy Products
More Displays of Feed and Forage
More Pleasure Cars

than at any previous show

The 1917 Show Will Make a Place in History

Despite the turmoil of war, the Dairy Cow, which produces 18 per cent. of food of the civilized world, is placidly and patriotically going about her business. She must be given every assistance possible by mankind at this crucial moment of the world's history.

MASS MEETING, OCTOBER 22

The Mass Meeting of the Dairy Industry, addressed by men prominent in the Nation's War Work, will be the most important food meeting of the year.

A MAMMOTH NEW COLISEUM

has been erected by the State of Ohio on the State Fair Grounds at Columbus especially to house this show. Better facilities than ever.

Instructive Cattle and Horse Judging, Thrilling Horse Fair and Cattle Parades Each Day and Night.

Draft Horse Exhibits, Calvary and Police Mounts, Hunters and Jumpers, Saddle Horses, Big Draft Horse Hitches, Harness Horses, Ponies.

COME AND BRING YOUR FAMILY

Crowded into the ten days and evenings of October 18 to 27 will be more education, more entertainment, more opportunities to meet with men and women prominent in the Dairy Industry than can be offered by any other Fair or Show of the year.

Inquire of Your Nearest Ticket Agent Concerning Rates to

Columbus, Ohio

Remember the Dates, Oct. 18 to 27

Oliver the Choice at Plainsboro Also

At the demonstration on the Walker-Gordon farms, at Plainsboro, N. J., ten out of fourteen tractors pulled Oliver plows.

At the National tractor demonstration at Fremont, sixty-five percent of the tractor manufacturers not making plows pulled Oliver products.

At both of these demonstrations, tractor manufacturers insisted upon pulling Oliver products in order to secure the best results from their tractors.

The nearest Oliver dealer will be glad to give you full information on Oliver plows and other implements. Write us for information and we will be glad to tell you why Oliver plows are best adapted to meet your conditions.

Oliver Chilled Plow Works
Plowmakers for the World
Harrisburg, Pa. Rochester, N. Y.

Protected Trees Bring Profits
Injury from small animals and other sources can be prevented if you put

EXCELSIOR BRAND WIRE MESH TREE GUARDS
around trees. Come ready to set up. Quickly placed. Cost little. Made of strong, steel wires, heavily galvanized to prevent rust. Strong, sturdy, substantial. Last for many years. All sizes to fit all trees.
Write for catalog U, prices, information.
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"SCALECIDE"
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Does *all* that any other spray will do—but no other spray will do *all* that "SCALECIDE" will do. Kills all kinds of scale—all forms of fungus and insects that can be reached in dormant season—and invigorates your trees—and costs no more. *Read our money-back proposition* before ordering anything else.
Send for free booklet, "Profits in Fall Spraying"
B. G. Pratt Co., *M'f'g Chemists*
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Crates Standard bushel crates shipped knocked down from our Factory in southwestern New York at 12 cents each. O. S. KING, Jaquins, N. Y.

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Horticulture

STARTING ASPARAGUS

Seed Sown in Nursery Bed vs. Sown in Permanent Bed

My friend Massey tries to make good his argument on growing asparagus from seed planted in the permanent bed. I have great admiration for anyone who has the courage of his convictions, and this friend Massey seems to have. That, too, is a reason I can affiliate with many Jerseymen; few of us need anything for our nerves—hence that "calm assurance of a Jerseyman."

Friend Massey says he has tested the two methods to the extent of 10,000 transplanted roots, with an equal number of roots left in the nursery rows, and then emphasizes his former statement as to the size of shoots produced. There is no need whatever for him, or anyone else, to offer any argument to clinch that statement because every practical asparagus grower knows it. I admitted it in my former article.

Thru all this criticism of my article nothing is said to refute my main point which was that it was impractical from a commercial point of view because of excessive cost. Mr. Massey wants me to compare transplanted roots with roots left in the nursery row. I have seen it time after time and know full well that the plants left in the nursery row will produce shoots the first year fully as large as the transplanted ones will one year later. Now that seems to be Massey's point—you save a year. I admit that, but my point is that it costs too much to save that year. Ten thousand plants in the permanent bed will cover about two acres. The same number of plants in nursery rows will cover one-quarter of an acre.

Now, will any practical farmer, whether he be an asparagus grower or not, believe that the planting, weeding, hoeing, cultivating and poisoning of bugs is anything like as much on one-quarter of an acre as it would be on two acres? Weed and crab grass will have their swing in either case, but more so in the field than in the nursery row. Because, first, nursery beds can be planted where poultry will keep the young seedlings free from bugs, whereas poisons must be used if planted in the permanent field or isolated from poultry habitats. It is a very delicate job to poison the bugs on plants in the nursery rows and much more so where the young seedlings cover 8 times as much area. I honestly believe that any man who tried to do the work of bringing two or more acres of asparagus that had been planted in the permanent bed thru the first summer would give up in despair long before the season was half over. The thinning of the young plants, the endless amount of hand and hoe work, the persistense of the asparagus bugs and their young are extremely trying. Now, if the young plants are only five inches below the level it is harder and more tedious work than it would be in the nursery rows where the plants stand on a level, and much closer together, and this closeness of the plants is a help, too, in keeping down grass and weeds, as the young seedlings soon shade the ground—a thing that can not happen where the young seedlings stand 18 or more inches apart in the row.

Friend Massey says I was making merry at his expense. Not at all, brother. I was, and am, sincere in my statements. My thought was to prevent a brother farmer trying to do, on any considerable scale, what I know would cause him a financial loss. The difference between the cost of seed and planting in the permanent bed, and the cost of plants and planting the same area is not a tithe of the cost of bringing a bed thru when planted with seed in its permanent place.

"Men are prone to go it blind,
Along the calf paths of the mind;
They follow in the beaten track,
And out and in and forth and back,
And still their devious course pursue,
To keep the path that others do.
They keep that path a sacred groove,
Along which all their lives they move."

You may apply the above verse to this Jerseyman, but let any man try planting two or more acres of asparagus in the permanent bed, keep it clean and free from bugs.—C. C. Hulsart, Monmouth Co., N. J.

MARYLAND GARDEN NOTES

Getting New Potatoes Out of Old Ones

Every grower has doubtless noticed that potatoes in the cellar will often make white stems and a lot of little potatoes. They are new potatoes, of course, but are made entirely from the stored food in the old potatoes and there has been a loss instead of an increase. About ten or twelve years ago a brilliant Genius published a statement that he had grown bushels and bushels of potatoes in a big crate in his back yard in the city, the potatoes being in layers with moist material, either sphagnum or decaying straw. Then he claimed that he made the crate full of potatoes and no tops.

Of course this fake was soon exploded. But now I notice that some other Genius has struck the same idea and the daily papers of Baltimore are printing long articles about growing potatoes in crates.

Anyone familiar with plant life knows that the potato is really an underground stem used by the plant to store food to sustain the growing stems from the terminal eyes until they can make green leaves above the ground and get food from air and soil to make more potatoes.

Without these green leaves, under conditions of warmth and moisture the buds or eyes on the potato will grow and will transfer this stored-up food in the potato to the making of other potatoes, and instead of increase there is a loss. The potato tuber is largely made up of starch, for the making of which it is essential that there be green leaves. During the hours of sunlight the breathing pores, or stomata, in the leaves are open, and the air laden with a small percentage of carbon dioxide enters and comes in direct contact with the granules that give green color to foliage. This green matter has the wonderful power to break up the chemical combination, throwing off the oxygen to purify the air and taking the carbon to combine it with the hydrogen and oxygen coming from the soil, and the first result of this is starch, which the plant uses in building cell walls and storing in the tubers for future use. Without this growth in the air and the making of green leaves there can be no new starch formed, and the potatoes grown in darkness are merely a transfer of food from the old potatoes and some loss occurs so that if one plants five bushels in his crate, he will have lots of little potatoes but less in amount than the five bushels planted. You cannot eat your cake and keep it.

The vehicle thru which the many horticultural fakes get abroad is the daily city press. The average newspaper reporter is the most gullible of mankind when it comes to horticultural matters, or in fact any matter concerning crops and plant life.

October

With the coming of October the gardener begin to think of winter protection of the matured garden crops, and the planting of cold frames and the getting out and repairing the sashes. The winter protection of the grown crops will, of course, vary with the climate. Down here in the sunny southeastern corner of Maryland we leave a good many things right where they grew, since our soil is open in winter more than it is frozen. Hence we can usually get at what we want as needed. We leave parsnips, salsify, leeks, late beets and carrots right where they grew. In colder sections the beets and carrots had better be lifted. The carrots can be set upright in trenches like some use for celery, and the beets can be pitted and covered thickly with straw and earth. The wintering of the late cabbages comes later. Here, I make the last sowing of spinach the first of October to make plants just large enough to winter over for spring cutting.

About the middle of October I cover the whole garden thickly with manure and let it remain on the surface until spring, and by that time it is in condition to feed crops, while fresh manure applied in spring is of little use until it has passed thru the nitrifying process.

Celery, grown in the Baltimore beds, should now be regularly earthed, just keeping the growing heart of the plants free from the soil. The final cover we do not apply until hard freezing is evidently at hand.

I divide my stock of sashes into three sash portable frames. These enable me to practice the proper rotation by moving the frame and not replanting the same crop in the same soil. Our market growers use the Big Boston lettuce as it makes the biggest show. But closer heading varieties like All Heart and Tennis Ball have as much good edible portion and can be set closer in the frames. For the late lettuce crop outside I am using Hanson and Wonderful, and for the fall and Christmas crop in the frames, Dreer's All Heart.

One of the three light frames will be set with the Grand Rapids leaf lettuce, setting the plants six inches apart so that they crowd and blanch each other. This is the chief lettuce grown in the west where head lettuce does not succeed, and really is better than the head lettuce; but our eastern markets must have the heads.—W. F. Massey, Wicomico Co., Md.

Cuts Fuel Bills 1/3

A saving of 25 to 40 percent in fuel bills is an actual fact—where the single register pipeless furnace is in use.

The ordinary hot-air furnace wastes about one-third the heat generated by passing it through, along pipes and elbows, with their great cooling surfaces. This is entirely eliminated in

THE FLECK
Modern Way Pipeless Furnace

You get the heat from one register, which in turn is circulated by the cold air to all parts of the house, giving an even temperature in every room.

No bother to install, no pipes and crooked elbows to put up. No repairs. Get THE FLECK MODERN WAY PIPELESS FURNACE. It is reasonable in price. Pays for itself in fuel saving in a short time. Know all about this modern, economical way of heating by writing us for our free booklet. Address Department 28.

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Also 1000 Used Autos $150 up
Every make known in 1917-1916 models $150 to $800. Send for our new
Auto Catalog No. A
It's full of valuable information for the man who expects to buy a car.
ROMAN AUTO CO.
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Reading Bone Fertilizer
Quality Service Satisfaction
We ask the patronage of every intelligent farmer, desiring high-grade fertilizers, representing the most value for the money expended.
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Ask your dealer for Reading Bone Fertilizer.
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TAKE NOTICE
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One of our customers received $50 for what he thought worth $25. Get our price list. References
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W. D. POWER & CO. 601 W. 33 St. New York
are the largest handlers of commission hay in greater New York; if you have hay to dispose of communicate with them.
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Man—To Wear Fine Suit act as agent; pay, easy
BANNER TAILORING CO., Dept. 738, Chi

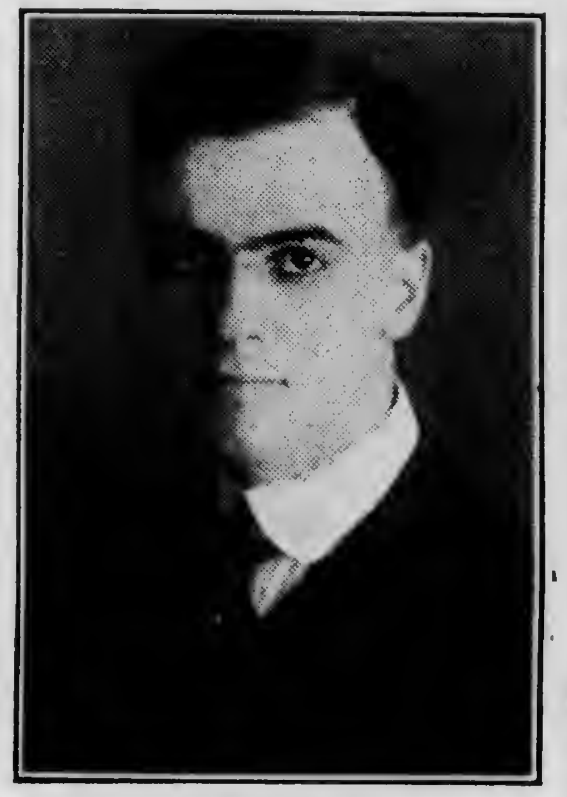
PENNSYLVANIAN GOES TO NEW ENGLAND

Promising Organization Work Started

Mr. Howard W. Selby, well-known in vegetable gardening, general marketing and grange circles in Pennsylvania, has recently been appointed head of the Marketing Division of the Eastern States Exposition, with headquarters at Springfield, Mass. Mr. Selby has had considerable experience in vegetable gardening, having been associated with the Starkey Brothers of Philadelphia. He was later in the produce commission business in Philadelphia, which business he left last fall to enter Princeton University. When the war broke out, Mr. Selby offered his services to the U. S. Department of Agriculture, and was engaged in special marketing studies during the summer. His particular work lay in developing a better market news service in the primary markets of the country. While engaged in this work in the New England cities, he came under the observation of the managers of the Eastern States Exposition, and was finally selected for the position named.

Mr. Selby will have one of the most interesting lines of work in his new position. While giving particular attention to marketing, he will give attention to the general upbuilding of New England agriculture. New England produces only about 25 percent of the farm products that it consumes. This means higher costs to consumers in New England cities, and consequently higher standards of wages to city workmen. The remedy is sought thru the rejuvenation of farming on economic lines. The managers appreciate that the first requirement for the upbuilding of farming is a system of marketing that will return to the farmer a better price for what he produces. Second, that a certain measure of cooperation is necessary to yield better results in both buying and selling. And third, the rejuvenation of the rural life of the states is necessary to the all-around development of the rural districts. All of these features are contemplated in the work of the Eastern States Exposition, and much of this work is expected to come under the supervision of Mr. Selby.

First attention, however, will be given to marketing organization. In a statement given by Mr. Selby to the Executive Committee of the Field Department upon taking up his work, he outlined his purpose as follows:



HOWARD W. SELBY, MARKET SPECIALIST OF EASTERN STATES EXPOSITION.

"A well-equipped marketing division should work towards the fundamental ends of

"1.—Aiding the farmer to further reduce the cost of production thru the co-operative purchase of supplies.

"2.—Showing the farmer how to grade and standardize his product.

"3.—Organizing the producers for a more effective system of distribution.

"4.—Rendering the retailer a service by furnishing practical plans for fashioning his business on a more efficient basis.

"5.—Educating the consumer to pay one price for the product and additional for service when required.

"6.—Encouragement of co-operative delivery system, or the 'cash and carry' plan."

The work of the Eastern States Exposition is not being duplicated in any section of the country, and will be watched with great interest. All who know Mr. Selby feel that he is exactly the right man for the big job he is undertaking.

MARYLAND FARM LOAN BANKS

Following is a list of National Farm Loan Associations chartered to September 13, 1917, in Maryland:

Caroline County Association, Ridgely, Caroline County, Charter No. M-3.
LaPlata County Association, Port Tobacco, Charles County, Charter No. M-1.
Prince Georges County Association, Riverdale, Prince Georges County, Charter No. M-2.

LAMBERTVILLE RUBBER FOOTWEAR
will prove to be the best you ever bought

Lamco Four Buckle Arctic.
Chock full of extra wear, extra quality, extra comfort.

BE on the safe side and buy Lambertville this year. You want boots and shoes that will withstand the hardest wear you can give them—the kind that besides being wear-proof, are as comfortable as they can be made.

That's exactly what you get when you buy Lambertvilles. Nothing but first quality rubber is used in Lambertville boots and shoes. The tight seams can't come open, and talk about comfort! The minute you put your feet into Lambertvilles you know that cold weather or discomfort can't reach you.

There's a Lambertville Brand for Every Purpose and Every Purse

You can't help but get solid comfort and satisfaction out of any of these Lambertville Brands. No matter which brand you buy you will find it comes up to the Lambertville reputation for being the best at the price. You can identify any Lambertville Boot and Shoe by the Green Oval Label. Here are the different brands:

Snag-Proof—All rubber and duck. Seven thicknesses of rubber *ground* into the heavy duck.
Redskin—Made of long wearing red rubber.
Lamco—Pure gum reinforced with seven stout ribs to prevent cracking or breaking.
L Brand—Duck vamp, long service footwear at moderate price.
White—Pure white rubber in Snag-Proof quality—steam cured in vacuum, designed for extreme severe service.

You should find Lambertville Footwear for sale at the best store in your locality. Not all stores sell the Lambertville line because we limit the sale to merchants who value a satisfied customer above a quick profit. If you do not find a dealer near you, write us direct and we will see that you are supplied.

A Green Label — LAMBERTVILLE RUBBER CO. E. STOUT'S PAT. REG. U.S. SNAG-PROOF PAT. OFF. LAMBERTVILLE, N.J. — *On Every Boot and Shoe*

Snag-Proof Short Boot. As water-tight as a drum. Pure rubber throughout.

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Write For My DARING OFFER 30 Days FREE Trial No Money Paid In Advance

A one-man stump puller on REAL free trial! No money in advance! Proven unequalled speed! power! strength! of KIRSTIN ONE-MAN STUMP PULLER. One farmer pulls stumps 30 inches across, at cost of only 4c. Another pulls 400 daily! Another, 2,000; one every 5 minutes. Thousands in use. One man alone easily handles and operates. Guaranteed 3 years—flaw or no flaw! Cash or credit. Prices $50 and up—all types. One-Man style or Horse Power—all sizes. Valuable Book Free. Tells how to pull stumps, simply and cheaply. Describes pullers. Brings big offer—SPECIAL offer you can't afford to miss. Write NOW. (72)
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ESTABLISHED 77 YEARS

HOOSIER STOVES & RANGES FREE
To try in your home 30 days free no matter where you live. Show your friends, send it back at our expense if you do not want to keep it. Million members of families enjoying the comforts and pleasures of "Hoosier" Stoves & Ranges, perfect bakers and heaters, beautifully finished, smooth latest design, guaranteed for years. Write for our big free book showing photographs, describing large assortment of sizes and designs of Steel and Cast Ranges, Cooks, Soft and Hard Coal Heaters, to select from, explaining our free trial. Send postal today.
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30 Acre Home Farm $3700 On Main Auto Road
Only two miles to two hustling towns. Excellent train service to commute to business or college. Land all dark loam tillage, splendid 2-story, 8-room house, concrete cellar. Good barn 40x50. Nice assortment fruit. Aged couple forced to sell immediately will include if taken soon pr. horses, 4 cows, poultry, 2 pigs, wagons, 2 buggies, 3 sets harnesses, 2 plows, harrow, cultivators, corn planter, small tools and a lot of hay, oats, corn, potatoes, apples, etc. Shown by our Norristown agent. For details see page 26 Strout's Catalogue of 321 bargains in a dozen states. Copy free.
E. A. STROUT FARM AGENCY,
Dept. 1765, Land Title Building, Philadelphia, Pa.

No More Tired Feeling
If you have a Terriff Perfect Washer—a time and labor saver for every home. Washes all clothes sweet and clean without the use of the washboard.
The Terriff Perfect Washer
is absolutely guaranteed. Sold direct to you. Write for free booklet. Get washer without cost. Agents wanted.
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PEERLESS FEED MILL
Double crusher roll machine cut plates. Grinds better quality feed with less power, grinds green ear corn, small grains and alfalfa. Also furnished with cast plates. Sizes 1 1-2 to 20 H. P. Write for prices & catalog.
A. M. Dellinger, Lancaster, Pa.

A Small California Farm earns more money with less work. Raise the crops you know about—alfalfa, wheat, barley, etc.—also oranges, grapes, olives and figs. Ideal for dairying, pigs and chickens. No cold weather; rich soil; low prices; easy terms; good roads; schools and churches. Enjoy life here. Newcomers welcome. Write for our San Joaquin Valley, also Dairying and Poultry Raising Illustrated folders, free. C. L. Seagraves, Industrial Commissioner, Santa Fe Ry., 1957 Ry. Exch., Chicago.

Farm For Sale 85-acre farm, 1 1-2 miles North of Ridgely, Maryland. Strawberries, Alfalfa, Wheat and Rye growing. Adapted to general farming, trucking or dairying. Good 8-room house and ample outbuildings, including silo and tenant houses. Excellent water and pasture. For further information, address N. C. Dean, Ridgely, Maryland.

Selby Service Satisfies Ship us your produce, poultry and eggs. Penna. Potatoes a specialty. Returns day goods are sold. Ask for our market letter.
SELBY PRODUCE CO., PHILADELPHIA

Ship your DRESSED POULTRY and EGGS to ARTHUR H. BONSOR, Reading Terminal Market, Philadelphia, Penna.

ALWAYS mention PENNSYLVANIA FARMER when writing to our advertisers. This will insure you prompt attention and service.

Poultry

LOSS IN SHIPPING

A majority of small shippers of poultry fail to realize that live fowls will lose weight in shipping even a short distance. Very frequently when poultry is shipped to dealers to be sold on commission and the returns show loss in weight the shipper is inclined to believe that he has been cheated in weighing, failing to realize that the loss may be due to shrinkage.

In our experience in shipping live fowls to one particular market requiring only a half a day from the time the fowls leave the farm until they are sold, the loss has averaged about three percent.

In shipments that have been on the road for twenty-four hours the loss will average from five to eight percent and in shipments requiring two days or more travel the loss is frequently as high as fifteen percent. These figures on long distance shipments are taken from the records of one of the largest packing companies in the country and this is considering that the birds are fed and watered in transit. The percentage of loss is usually greater in hot weather.

No method of overcoming this loss has as yet been found and the only reason for it seems to be the excitement the fowls are subject to in transit. Loss of weight in shipping dressed poultry is usually slight.

The dressing of fowls always causes considerable loss of weight thru the blood and feathers. This, of course, is necessary to dressing. Roasters and fowls weighing from four to five pounds alive will lose an average of half a pound in dressing.

Loss in dressing is of course compensated for by the higher price per pound obtainable for dressed birds. If the price of dressed poultry is not at least five cents a pound higher than the market price of live fowls it is better policy to sell the stock.—J. Raymond Kessler, Chester Co., Pa.

POULTRY HUSBANDRY STUDENTS AT PRACTICAL WORK.
N. J. COLLEGE OF AGRICULTURE.

WINTERING BEES

In view of the need for a greatly increased honey crop in 1918, beekeepers should at once complete preparations for winter so that every colony will be strong in bees next spring. It cannot be urged too strongly that these preparations be made immediately. Do not be misled into believing that no special care is needed in winter. Because of neglect at this time, honey crops of the following year are often reduced one-half and the ill effects of neglect are too well proved to be debatable. Scarcely a winter passes that Pennsylvania beekeepers do not lose 10 percent of their colonies and usually 75 percent of the remaining colonies are reduced so that they cannot do their best the following summer.

For proper development in the spring, a normal colony of bees needs plenty of good stores, plenty of room for breeding and plenty of protection from cold and wind. In winter they need only the stores and protection but, if abundant protection is then given, the room for spring breeding may also be provided at this time. If bees are properly prepared for winter there is nothing a beekeeper can do which will benefit a normal colony from October 1 to swarming time.

It is suggested that each colony be given two hive bodies (preferably 10-frame), the top body well supplied with stores in addition to what honey may be in the lower body. This arrangement will provide abundant breeding room and stores. Beekeepers hesitate to leave so much honey when they feel that they might sell it, but this honey is not wasted. In almost every locality strong colonies can gather enough extra honey in the spring to more than replace what is consumed in winter and by spring breeding. It often costs more to winter weak colonies than strong ones because weak colonies cannot take advantage of the earliest honey flows.

Explicit directions for making winter packing cases are not necessary for any beekeeper can devise a suitable box. It is suggested that colonies be packed in groups of four with the hives touching each other, two facing east and two west, to reduce expense and labor. Packing should be provided on all sides, top and bottom. Four inches below, six inches on the sides and a foot on top will not be excessive. If the bottom or front of the hive is left unprotected the bees will not receive the full benefit of the packing. Any packing material such as sawdust, planer shavings, finely cut straw or packed forest leaves, may be used and the case should be waterproof. Roofing paper over the cover is desirable. Some sort of tunnel thru the packing is necessary for ventilation and to permit flights in good weather. With abundant packing a small flight opening is best. Do not make an alighting board on the outside of the case for it only serves to catch snow. Ventilation thru an absorbent cover will do no harm but is not essential if abundant packing is provided. Wind protection is necessary and unless this is provided heavy packing is of little value.

Every beekeeper should pay special attention to wintering this year for the nation needs a large honey crop next year. It will always pay to give attention to this part of beekeeping, which is too often neglected. Remember that proper wintering is simple and inexpensive in time and money since stores are saved and spring manipulations are eliminated. The winter cases pay for themselves every year. You can carry no better insurance for a crop next year.
—E. F. Phillips, Apiculturist.

CARE OF LAYERS DURING THE MOULT

The fall season is the natural period during which the fowl goes thru the moult, and when egg production drops to its lowest figure during the year. It is the exceptional fowls that will keep up egg production while under-going the moult. The moulting period is naturally the bird's resting period. These facts should be borne in mind in managing laying flocks at this season. Many methods have been tried with the object of forcing or hastening the moult. It is a question whether or not such methods are advisable. The best method of taking care of the laying flocks during this time is to keep up the same general method of feeding as is usually practiced, with the addition of a small amount of sunflower seed to the grain ration. The content of the sunflower seed is similar to that which is found in the feathers of the bird. The use of oil meal and other heavy protein-bearing feeds is usually partially effective in hastening the development of new feathers, as the body of the bird must change the form of protein received from such source into a quite different substance. It will probably take from two to two and a half or three months to fully complete the moult in the general laying flock. On the average farm the pullet flocks will begin egg production during this time, thus keeping up a fairly uniform appearance during the fall season.

NOT ALWAYS THE FARMER'S FAULT

It has been the custom of city consumers of poultry products to lay the blame on the farmer whenever a bad egg was found. We must admit that the greatest chance of the product spoiling is before reaching the consumer, for the producer is not only accountable for what happens within his control, but also for what may happen in transit, over which he has very little jurisdiction. However, as the following experience aptly demonstrates, the consumer is sometimes to blame for spoiled eggs thru thoughtlessness in keeping them.

A poultry plant, supplying eggs and poultry to a large hotel in a nearby city, received numerous complaints from the management that the eggs were not fresh when used. The farm had satisfactorily supplied the hotel for a number of years and since every care was taken with the product both on the plant and in shipping, the farm manager could see no reason for the hotel's claims.

The poultryman, being satisfied that the cause must be in the hotel's method of keeping the eggs, decided to visit the storage room for a possible clue to the cause.

It was found that the eggs were kept in a refrigerator room with the meats and poultry. During the time the kitchen was at work, from 5 A. M. in the morning until 1 A. M. the next morning, the door of the room was frequently opened and shut by those entering to obtain food for the cooks. During this time the temperature averaged from thirty-five to forty degrees,

but after one o'clock the refrigerator door was closed and not opened again until breakfast preparations began at 5 A. M. During these four hours none of the cold air escaped thru the opening and closing of the door and the temperature often went as low as ten degrees. Consequently the eggs were partly frozen at night and thawed out when brought into the hot kitchen in the morning.

Nothing will more quickly destroy the freshness and flavor of an egg than freezing and thawing, and this is precisely what the hotel management was doing with their eggs. The hotel now keeps the eggs in the fruit storage room where the temperature never goes as low as freezing and has entirely overcome the trouble. The eggs were formerly kept there but were changed by the steward for convenience without thought of the damage that freezing and thawing would do to the eggs.

This is only the story of one case where the fault was with the consumer and not the producer and from my own experience I believe the story could be extended indefinitely.—J. R. K.

POULTRY CULLING DEMONSTRATION AT MOHEGAN FARM

Owing to the unusual increase in the present cost of feed, which naturally affects the poultry industry very seriously, proper culling of the flocks should receive more careful attention this fall than ever before, and in order that the poultry keepers of Westchester County (N. Y.) might avail themselves of the most expert knowledge along this line, the Westchester County Farm Bureau and the Pleasantville Poultry Club, in co-operation with the New York State Food Supply Commission, arranged to hold a flock-culling demonstration Friday, Sept. 7th, 10 A. M., at Mohegan Farm, Mohegan Lake, N. Y., 4 miles northeast of Peekskill, Chas. H. Baker, owner.

The meeting was opened by Mr. Parson, of the Pleasantville Poultry Club, and by Mr. John G. Curtis, director of the Westchester County Farm Bureau. Mr. O. B. Kent, poultry expert from Cornell University, was introduced and delivered a very interesting lecture accompanied by a demonstration of culling unprofitable hens.

The meeting was held in the Auditorium at Mohegan Farm and was attended by about 125 persons interested in poultry who had come from their homes within a radius of about 10 miles.

The meeting was pronounced a decided success and everybody went away feeling that they had learned very much in the way of profitable poultry keeping.

In the majority of our large cities there are certain poultry dealers who make a specialty of guineas and those having these fowls to sell will receive the best returns by shipping to these specialists and they in many cases simply dispose of the guineas to these dealers. The reason for this is that the supply of guineas is usually small and uncertain and consumers can have little assurance of obtaining them excepting from the specialists who thus practically control the supply of these fowls.—J. R. K.

The trouble of having hens lay numerous soft-shell eggs can often be overcome by adding a little air-slacked lime to the mash mixture. Only a little should be used, say a teaspoonful to a bucket of mash twice a week until the trouble is overcome. This will not correct the trouble if it is due to an over-fat condition of the fowl.—J. R. K.

Get Hens Ready for Winter Laying
Put them in top-notch condition, now in the Fall, and you'll get big returns in the egg basket later on.

DR. HESS POULTRY PAN-A-CE-A

Will Start Your Pullets and Moulted Hens to Laying

The moulting season is on. It's the most trying time of all the year for poultry. You know it takes a good deal of extra strength to grow all those new feathers. Pan-a-ce-a is a great help to your moulting hens because it enriches the blood, gives better appetite, aids the digestion, which gives them the extra strength required to force out the old quills and grow the new feathers.

Then, when the moult is over, you want your hens to start in promptly to laying again. Don't forget that they have been through something nearly like a long spell of sickness. Feed Pan-a-ce-a to restore their good feeling, to make them strong and healthy, to liven up the dormant egg organs and put them in real egg-laying trim. Pan-a-ce-a will do all these things for your poultry.

There is a dealer in your town that will supply you with Dr. Hess Poultry Pan-a-ce-a for your flock. It's to help your poultry through the moult—it's to start your pullets and moulted hens to laying, otherwise he will refund your money. Packages, 25c, 60c and $1.25. 25-lb. pail, $2.50; 100-lb. drum, $9.00. Except in the far West and Canada.

DR. HESS & CLARK, Ashland, Ohio

DR. HESS STOCK TONIC
Keeps Hogs Healthy. Drives Out the Worms.

Dr. Hess Instant Louse Killer Kills Lice

$2000 A YEAR EXTRA PROFIT
Earn $500 to $2000 during season when farm work is slack. Make big money hatching and selling Day Old Chicks. Easy work—takes only a few minutes a day. No experience required. We teach you. Enormous demand for chicks in every locality. Big shortage last season—millions of chicks will be needed to supply demand next Winter and Spring. Thousands of men and women poultry raisers who used to hatch small lots of chicks themselves are now buying Day Old Chicks from Mammoth Incubator operators.
Make Money Between Seasons
Only few minutes work a day. Small space needed. Use your present cellar. Equipment quickly pays for itself. Costs only 5 to 10c a day to run. Easy to operate. *Now* is the time to investigate. Get our new
BOOK FREE!
Tells all about Day Old Chick business and facts about Blue Hen Mammoth Incubators and Colony Brooders.
Write to-day
Watson Mfg. Co. 104 Ann St., Lancaster, Pa.
800 Egg Capacity and up.
Single or double Deck. Little space required. Old cellar will do.

WANTED IMMEDIATELY
SHIPMENTS OF
STRICTLY FRESH EGGS
HOBERG BROS., 11 Stone Ave., Brooklyn, N.Y.

DANDY SEWING SET

For your soldier boy in camp or at the front; for your sailor lad patrolling the high seas; send them one of these splendid sewing sets. These youths, taken from their daily walks of life and thrown together in a new and strange environment, with no women folks to sew for them, will appreciate this fully equipped sewing outfit.

Send us two subscriptions to Jan. 1, 1919 at 75 cents each or 10 subscriptions to Jan. 1, 1918 at 10 cents each and we will send you prepaid one of these dandy sewing sets in a compact case.

PENNSYLVANIA FARMER
261 S. Third St., Phila., Pa.

Farm Products Prices and Prospects

FROST DAMAGE

We asked the 51 Extension Agents in Pennsylvania and those in the northern half of New Jersey to send us an estimate of the damage done by frost to date. We have received the following reports up to the time this is written:

County	Corn	Potatoes	Buckwheat	Vegetables
Pennsylvania				
Allegheny ...	10%	None	None	5%
Berks	75	None	75%	50
Blair	10	3%	None	10
Bucks	1	None	None	1
Butler	10	10	15	15
Crawford	25	10	15	5
Cumberland ..	None	None	None	None
Delaware	None	None	None	None
Dauphin	None	None	None	$500
Fayette	30	5	10	20
Franklin	25	5	25	Little
Indiana	25	15	35	25
Lackawanna	30	10	60	5
Lawrence	3	2	5	8
Lehigh	$6000	None	None	$4000
Luzerne	30	10	30	15
Lycoming	15	Little	20	10
Mercer	10	5	5	5
Montgomery .	1	None	10	5
Monroe	15	5	20	12
Tioga	25	5	26	15
Washington ..	40	None	Slight	75
Westmoreland .	15	None	2	5
Wyoming	25	20	40	10
York	5	None	None	None
New Jersey				
Bergen	20	None	None	10
Mercer	Slight	None	None	None
Middlesex ...	None	None	None	None
Monmouth ...	3	5	10	3

MARKET REVIEW

Apples More Plentiful

The apple movement continues to increase. Prices continue quite firm. Missouri Jonathans are selling f.o.b. at $4.25 to $5 per barrel which is about twenty-five cents higher than prices a week ago. Jobbing prices of Jonathans are also firmer. They are selling for $4 to $7 per barrel in the markets. Jobbing prices of Wealthies have weakened slightly; they are now selling from $4 to $5.25 per barrel. Growers at Winchester, Virginia, are getting far more for Ben Davis and York Imperials than last year. Ben Davis are bringing $3.50 per barrel, as compared with $1.75 to $2.25 a year ago at this time. York Imperials are correspondingly higher.

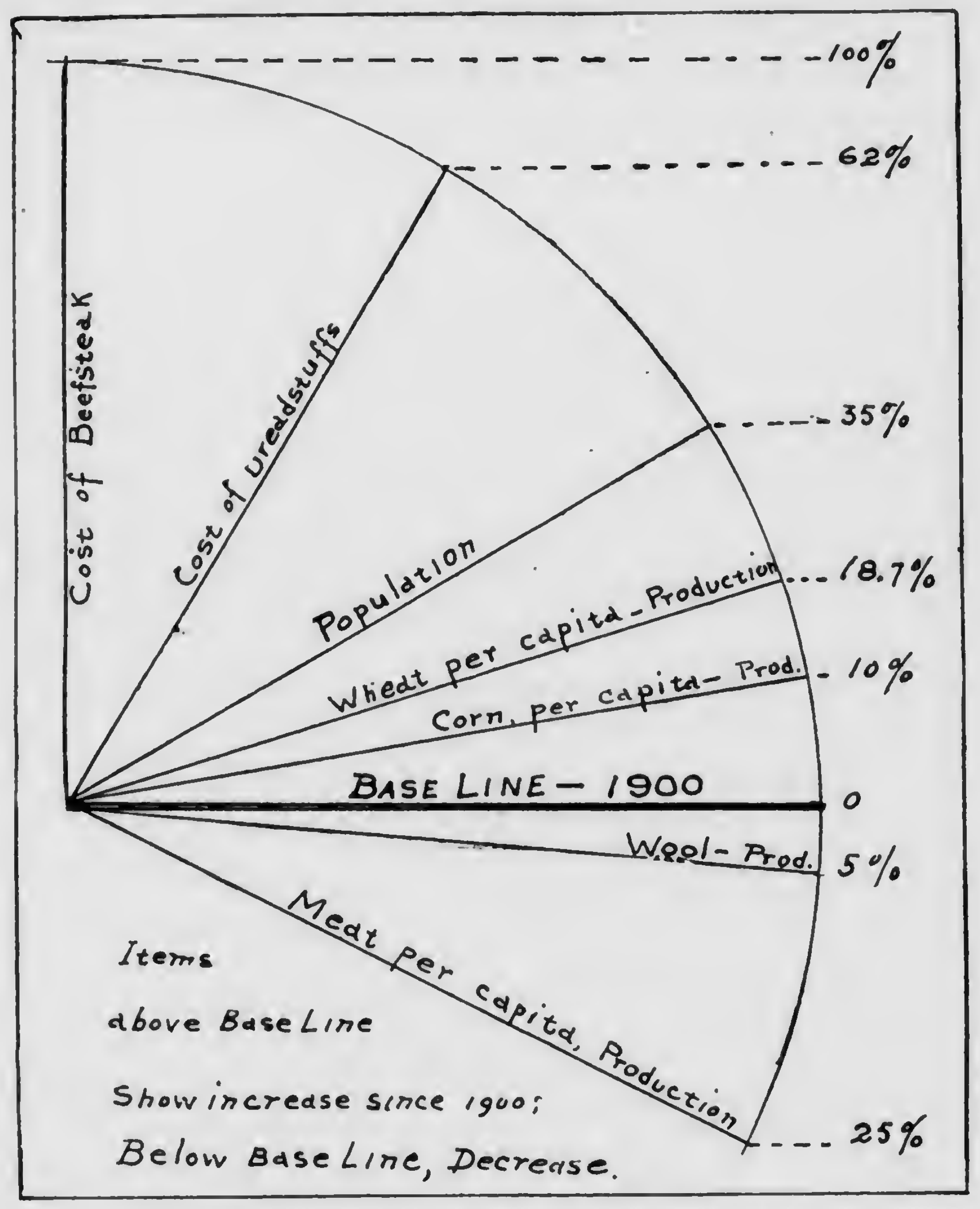
Irish Potato Market Unsettled

The total shipments of Irish potatoes for the past week have been 4,092 cars, or about the same as a week ago. The shipments from New Jersey have decreased considerably, but the movement from the middle western potato stores, namely Minnesota, Michigan and Wisconsin, has increased. Shipments from Maine have been decreased somewhat by the serious car shortage in that section. F.o.b. prices in Maine have advanced as high as $3.50 to $4 in bulk per 11 pecks, altho they now have declined slightly and are selling at $3 to $3.35 for Cobblers. New Jersey Giants also have advanced during the past week but are now holding quite firm at $1.08 to $1.10 per bushel, f.o.b. Jobbing prices have weakened slightly during the past week.

Other Fruits and Vegetables

The total movement of onions this week amounted to 715 cars, which is about the same as the week previous. Massachusetts, New York and Ohio, which are among the principal shipping districts, have all moved smaller supplies this week. California, however, shipped more heavily. New York onions are jobbing at $2.50 to $3.25 per one hundred pound sack, or slightly higher than the prevailing figures a week ago.

Cabbage shipments were heavier this past week. New York and Wisconsin, which have been moving a large part of the total shipments, nearly doubled their movement of the week previous. Colorado still continues to place a large supply on the market. The kraut factories have been buying heavily and this has tended to keep up the price. New Yorks are jobbing at $20 to $28 per ton and Colorados at $1 to $2.25 per 100 pounds on western markets.



IMPORTANT RELATIVE CHANGES SINCE 1900.

CROP REPORT FROM HUNTINGDON COUNTY, PA.

The Public Safety Committee of Huntingdon County sent out one hundred blanks calling for a careful estimate of the food crops of the county. They were sent to three representative citizens of each township. Twenty-two townships have reported. These report in the aggregate as follows: Wheat, 214,677 bushels; buckwheat, 26,750 bushels; oats, 267,410 bushels; corn on ear, 804,140 bushels; rye, 22,850 bushels. The reports show a county average potato yield of 112 bushels per acre. The department last spring reported 2,668 acres planted in the county. Adding to this the war garden crop we find the county will have at least 300,000 bushels. Cabbage and tomatoes are but a medium crop, but beans are 150 percent of the normal county crop.

Other garden vegetables are plentiful. Our fruit crop is very light.

CABBAGE PLENTIFUL

As is so often the case, cabbage is comparatively cheap this year after a year of extremely high prices. During last winter it brought as high as $200 a ton. It has frequently sold other years as low as ten to twenty dollars. Since the first early shipments from Florida last April it has been a poor paying crop to producers. New Jersey growers consider it one of the poorest crops this year. Ever since June it has netted New Jersey farmers from 50 cents to $1.25 per barrel of about 100 pounds. If with cold weather the more staple crops advance in price those who have stored away their cabbage will be fortunate. Cabbage can be "put down" easier than most other vegetables. The late keeper varieties are larger and have more solid heads than the summer kinds. Late Flat Dutch and Danish Ball Head varieties represent two excellent types of winter cabbage. New Jersey produces a good many cabbages early in the season but is not noted for its late crop. New York and Wisconsin are the greatest producers of late cabbage.

SYNOPSIS OF WEATHER AND CROP CONDITIONS IN NEW JERSEY

The temperatures for the whole month of September have averaged lower than the record for some 30 years or more, and the past week has been slightly cooler than the normal. One good rain has kept the ground in good condition, and all lines of farm work have been favored by the weather. In the northern portions of the state, harvesting of corn, potatoes and tree fruits has progressed, and plowing and seeding grain and grass is nearly completed. In the south, growth of late crops, especially potatoes, was greatly favored, and if heavy frosts delay in those districts for another two weeks, a large potato yield ought to result. Tomatoes, beans, cabbages and peppers are not very good crops. Cranberry picking is nearly finished. Sweet potatoes are probably a fair to good crop, and harvesting will be active this week. There will be less ground without cover crops than usual this winter. There is some report of more storage of potatoes than usual.

NEW JERSEY APPLES OF HIGH QUALITY

New Jersey is shipping more apples just now than almost any other state. During the week ending September 17, 47 carloads were sent out of the state besides thousands of packages in less than carlots. Up to the present time more than 1,000 carloads have left the state. The crop is short but the quality is excellent and growers are receiving satisfactory prices. Bushel hampers are bringing $2 and barrels of good stock are selling for $5 and $6 in the wholesale markets. Apples to reach these prices, of course, are the result of good culture. Many orchardists found it necessary this year to spray from 4 to 6 times.

PRICE OF MIXED WHEAT CHANGED

The Food Administration has made some modification in winter wheat prices. No. 2 red and white; No. 2 white and red and No. 2 white wheat have been discounted only two cents under No. 2 red. This is the full milling value. No. 4 wheats may be handled on their merit by sample, but in no case shall the price exceed one cent under threes.

—

Some of the newspapers have already begun to clamor for the Government to commandeer the wheat on the farms. This would seem to be precipitate. Sometimes it strikes one that it is not a bad idea that farmers are not all selling their wheat in a rush—we may need some of it for flour next spring before the 1918 crop comes on. To rush it in now would be to tempt its immediate consumption. Next spring a low price would not amount to anything if farmers had no wheat to sell.

TOO MANY POTATOES

Great Britain has a new potato problem on its hands. This time how to get rid of the surplus crop. People have been admonished for so many weeks to curtail their consumption of potatoes that now the new crop is a very large one and the puzzle is how to get the people to eat enough potatoes to make it possible to market the crop and at the same time market it so that it will represent a fair return to the producer. It might be remarked in this connection that the special efforts of the government to increase the potato crop for the year has brought about the anticipated result of too many potatoes and too small crops of other roots.

AT THE FAIRS

Trenton Interstate Fair

The Trenton Interstate Fair, Sept. 25-28, enjoyed good weather and good attendance. The Thursday crowds were the largest on record. The exhibits were up to the standard of past years in size and variety, and while average in quality in some classes, had a few high spots which would compare favorably with any state fair in the country.

Live Stock

The live stock department had its strong and weak spots. Dairy cattle and swine were very good. The horse department was scarcely up to the average of past years, and certainly not what it should be for a state or interstate fair. There may be good reasons why the large horse breeders do not show extensively at Trenton, but it would seem that a little effort on the part of the management should bring out a much better showing of farm horses and local-bred stuff. There is quite as much educational value for the farmer visitors in a good farm team show as in a purely breeders' or importers' show, and the former should be given more attention.

Trenton has had some very good shows in the past, but this year this department was a failure. It was reported that some trouble was experienced in having flocks moved on trains. At any rate the pens were practically bare, and the few sheep on hand merely served to emphasize the weakness of the exhibit.

The swine show was good. Exhibits were confined largely to the Berkshires, which seem to be gaining steadily in popular favor in this section. There were a half dozen herds of Berkshires, and among them were some of the best individuals to be found in the East. The competent judge remarked that he considered the Berkshire show at Trenton as good as was shown at any fair in the country this year.

The dairy cattle show was up to past standards, and in some respects better. The Guernseys were particularly strong, with the Ayrshires a close second. The Holsteins alone were lacking in numbers. For a dairy state, and one in which milk making is the primary branch of dairying, it is surprising that the Holstein breeders do not make a larger showing at Trenton. The quality of the Holsteins shown was good, but one herd swept practically all of the prizes. A feature of the cattle exhibit was the showing of Milking Shorthorns. There were four full herds of this breed, and they attracted very favorable attention from the visitors. With the increasing interest in the production of beef in the East, there is growing interest in a good, proved utility breed, and the Milking Shorthorn breeders are not overlooking their opportunity.

Fruits and Vegetables

Every square foot of available space in the large building devoted to the products of farm, orchard and garden was filled. This display was especially attractive to those in attendance at the fair, a large proportion of whom were from the towns and cities.

The fruit was especially fine. The display of apples and peaches, which composed all of the leading varieties, bore witness to the effective spraying, fertilizing and cultivation which the New Jersey farmers give their crops.

The exhibit of grapes contained specimens of a great number of varieties—black, purple, green and red—showing how the varying soil and climate of the Garden State is adapted to raising this particular fruit to perfection.

As might be expected, the vegetable exhibit was very fine, altho the quantity was not in proportion to this industry of the state. Space does not permit comment upon all the different crops exhibited, much less the different varieties of each. The floral display, most of which was made by the different seed growers and green-house men, attracted a great deal of attention.

One of the most useful exhibits was made by the State Department of Agriculture. In it were shown the right and the wrong methods of grading and packing fruit, vegetables, eggs, etc; also, the price received by the farmer for the goods packed by the two different methods. Such an illustration should convince any one for all time that it pays in dollars and cents to do this work right. A farmer may be able to produce first-class products, but if he fails to separate the second and third grades—and there will always be some—from his first-class stuff, he will lose out in this the final work at the farm.

Another large and creditable exhibit in this building was that of the work done by the Boys' and Girls' Clubs. A great array of attractive canned goods was neatly displayed, showing that the art of canning and preserving food is not to pass away with this generation. A lady extension worker in household economy stood by and lectured to interested women on the most effective methods of canning the different products.

Amusements

The amusement features of the Trenton fair have been subjected to considerable criticism in past years. Most of this criticism was thoroly merited, and evidently served a good purpose. At any rate, there was a decided improvement this year. One of the most conspicuous improvements was the absence of strong-arm farm paper solicitors. The clean-up started last year in this respect was fully carried out, and this class of solicitation this year was as clean as could be found on any fair grounds. The Midway was perhaps less objectionable than in former years, but presented about the same class of shows.

The concessionaries are another hard class to handle. At Trenton this year there was a full array the first two days, and many pretending to run a harmless game of chance are said to have done a big business with some big money stakes. To the credit of the managers, many of these were closed up the second day of the fair, and there was an effort to clean up generally. The managers are to be congratulated upon the improvement made in their amusement features. May they hold to, and improve, the new standards set!

Lancaster County Fair

The Lancaster County Fair was blessed with splendid weather which brought out near record-breaking crowds. The fair was a good one from practically every standpoint with exceptionally well-balanced exhibits. There was a liberal showing of live stock that was of good quality, but the numbers were not entirely what one would expect of the greatest agricultural county of the United States. The poultry display was excellent, including most if not all of the known breeds. Certainly all of the common breeds of accepted utility value were there, and some most excellent specimens.

There was a good and educational showing of farm implements and machinery. Home-lighting and power systems were especially strong, and there were many automobiles, farm trucks, tractors, etc. This display in itself was an education to the visiting farmers.

The horticultural exhibit was good and well-balanced. In fruits there was a good showing of apples, pears, plums, quinces, peaches and grapes. The vegetables were generally very fine. Some potatoes were a little rough, but on the whole the showing was good for the season.

The amusement features were not as varied as at some other fairs. Music and horse racing were the only free attractions. The midway shows were very much of the usual character, including some of the standard fakes. Some shows were very good; some were not. The concessions were of the usual order, minus some of the objectionable gambling or near-gambling features—thanks to the vigilance of the Lancaster Law and Order Society. Yet the visitor found that in principle the gambling or chance features of these places were not materially changed. The form of its manifestation only was altered.

System of the best kind runs thru all of the departments, including entering and judging of exhibits, placing and displaying, reclaiming after the fair, and prompt and accurate payment of premiums on the last day. The one thing of all things needful to the better moral tone of the county fairs is for better ways of amusing and occupying the time of the gay crowds that throng the concession aisles, free from the grafting or chance-game features which are found at all fairs and which seem to be called for in lieu of something better. Here is to the fair manager who can solve this problem.
—W.

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DYEING FOR A LIVING

Revival of of an Old-Time Industry

One of my earliest recollections is of a sweet, happy-faced grandmother standing beside her huge brass dye kettle under the shade of an apple tree, and stirring the fabrics therein. I can see them still, those wonderful colors of the rainbow hanging on the clothesline to dry for Grandmother's "hit and miss" carpet. Sometimes one of Aunt Euphemia's faded gowns was dyed for a makeover frock for me. Meanwhile, as Grandmother stirred the contents of the brass kettle she told stories of the Long Ago when she was a little girl, when her grandmother dyed all their yarn and homespun cloth just as regularly as they house-cleaned or performed some other routine household task.

And were there ever such colors! I think not, for the secret of vegetable dyeing perished with the passing of the dye kettle, and today when the subject of dyestuffs has become a national problem more than one of us would pay well for a knowledge of the old-time art as practiced even a half-century ago. In those days, weed and tree yielded color secrets of which we know nothing nowadays. Some of us remember our grandmothers experimenting with roots, barks and branches of forest trees, extracting colors for grandfather's and the boys' underwear, or for the braided or pulled rugs, in the making of which grandmothers were past mistresses.

All over the land today there is a great hue and cry in behalf of the old-time industries. Fastidious customers in the big city shops are demanding old-fashioned furnishings and hangings, and home dyeing is again the order of the day. In many farm houses women are producing old-timey furnishings and sending them in to the big furnishing houses for sale. This, in turn, has brought the dye kettle into requisition once more.

In a southeastern New York village lives Amy Mali Hicks, who is really a dye expert and craft-worker. She began by dyeing her own hangings and trimmings, and thru patient experimenting and hard work over the steaming kettle she has developed a private industry of no little importance. She calls herself a "Dyer of Stuffs", which means that her trade is to match or conceive any color you may have in mind, or may have fancied when you saw it elsewhere, but which even a tireless hunt thru the shops fails to reveal. The artists, costumers and dressmakers of New York City are her clients, and they keep her busy and hard at work with difficult problems. For Ruth St. Dennis' Japanese dance she dyes crepey-kimonos to match certain indescribable chrysanthemum shades; for Madame Nazimova she dyes diaphanous scarfs to match the volatile moods of this little Russian; while for the artists—Irving Wiles, Maurice Fromkes, Ben Ali Haggan and Warren B. Davis, she conceives their backgrounds for them.

She says that, like the heroine in Wells' "Marriage", she is "a shopper and a snatcher" who prowls round the shops picking up odd goods and silks to dye. "I send to Japan for the silk for scarfs," she says, "as I am sure of getting pure silk: if it isn't pure, it dyes in spots, you know. For costumes I use ordinary unbleached cheesecloth, as it is one of the most satisfactory materials to dye. Linen fiber does not take dye well, but cotton crepes receive them gratefully," said Miss Hicks.

From a box here or a bureau drawer there she produced piles of scarfs tinted in the graded tones of one color—yellows ranging from pale lemon to burnt orange, blues from the inner lining of a breaking wave to the cerulean of the deep, and pinks from the blush of a tea rose to the flush of the sunset sky.

"No, there aren't names for all these marvelous shades," she smiles. "Only the Japanese with their quaint phraseology could do them justice. Color is really the most vital thing in our lives; it plays a far greater part than we realize. If we lived in a bright red room for any length of time, for instance, it wouldn't be long before we would be so irritated and cross that there would be no living with us! Brown and grays, especially those merging into green, are the most soothing colors for wall coverings.

"The handicrafter can always test a dyed fabric by thoroly washing it, then hanging it in the sun to dry, as did our grandmothers. It can be rewet and hung out again, and left in the open for a couple of weeks. This will submit it to all the changes of weather. By this severe test all the loose particles fall off, and the color is reduced to the barest possibility of its changes.

"For rugs I use old cotton and woolen fabrics that have seen long service and which have faded as much as they possibly can. Unfortunately, the supply of these is likely to run out in due time, consequently goods must be bought to take their places."

For her "dye pots" Miss Hicks usually uses two wooden washtubs, with two wooden sticks for handling the goods. She says that it is never wise to use metal vessels unless one knows that they have no chemical effect on the dye. Porcelain, however, is safe to use, being to all intents and purposes not a metal, but having instead a china surface. She emphasizes that in any process of dyeing it is necessary to follow closely the directions and to use only the things which are ordered in the recipe. Nothing else will do "just as well".

MISS HICKS AMONG HER PRODUCTS.

"First," says Miss Hicks, "put unbleached goods to be dyed in a tub of boiling water and let them stay there until the water is cold. This is done to remove the oil from the unbleached muslin, as unbleached materials have a certain amount of cottonseed oil in their threads. In the bleached materials this oil has been removed by the strong alkali of the bleaching powders. These bleaching powders, of course, weaken the fabrics. Partly for this reason, but more especially because the bleaching alkali may linger in the goods and seriously interfere with the process of dyeing, it is always wiser for the handicrafter to use unbleached cloth for all purposes.

"For the hooked rugs, I always divide the rags into the desired amounts before dyeing, then subdivide the lengths into single yards. Then I proceed to roll each yard into a tight roll and tie the latter at four inches from the selvage, and in the middle firmly with a cord. I cut the flannel strips off the rolls with a very sharp knife just as if you were slicing a loaf of bread—make the strips one-quarter inch wide, and cut as evenly as possible."

Not long since, shoppers in one of the fashionable furnishing stores adjacent to Fifth Avenue, New York, were attracted by a window full of hooked rugs. They sold like hot cakes and when inquiries were made as to who had originated them it was learned that they were made by some New Jersey women, who had been discovered making rugs from gunny sacking one rainy day when it was too wet to go cranberrying, and they were straightway given an order for a sample lot of rugs. Now instead of picking cranberries at a pittance, the "pineys" are averaging $6 to $7 apiece a week, as they are paid by the square foot.

DYEING FOR A LIVING.

An Opportunity for Your Neighborhood

Especially now, when war is upon us and woolens are high-priced, and we may have to practice even still further economies, it may be well to revive our knowledge of dyeing and all the old-time handicrafts with which we may be familiar. Country women can organize themselves into handicraft societies, get out their advertising literature co-operatively and do an extensive business at their own door. One such community group which I know about styles itself "The Quilting Bee". There is a picture of a quilting bee in a quaint old farm-house in the center of their neat advertising folder, and on either side is an explanation as to the novelties made by the members of the "Bee". There are hooked and braided rugs, tray cloths and sewing bags; hand-woven rugs; quilted bed-spreads; bureau and table covers; curtains and hangings for high post beds, etc. The trade mark is a circle framing a bee, with the words "The Quilting Bee". This group is also located in southeastern New York, but there are similar opportunities everywhere for women who can do some particular thing and do it well. Dyeing especially was never in such demand.—Louise Dew, N. Y.

GOOD MEAT EQUIVALENTS

Macaroni & Cheese.—1 oz. butter, ½ lb. flour, ½ pint milk, 1 teaspoon mustard, a dash of cayenne pepper, salt, ¼ lb. macaroni, 2 oz. good cheese. Wash the macaroni, boil until tender, throwing into boiling water. When cooked, strain it and cut into pieces an inch long. Make a sauce with butter, flour and milk, add the seasoning and cooked macaroni. Lastly stir in the cheese. Pour into buttered dish. Grate some cheese over it and brown in oven. (The cheese, milk and also a little protein in the gluten-wheat macaroni afford a fair supply of protein.)

Cheese Crusts.—Pull the crust of a new loaf into small rough pieces. Place on a dish or tin plate, sprinkle grated cheese seasoned with a little cayenne pepper over the crusts, put them into a quick oven until they are lightly browned and crisp. (Not much cheese or any other protein in this.)

Cheese Balls.—3 cups grated cheese, salt and pepper to taste, and the whites of 3 eggs beaten stiff. Mix together, then form into small balls, roll in fine cracker crumbs, and fry in boiling lard. Serve very hot. (The cheese and egg white make a very complete meat substitute, for both are practically all protein or cell-making material.)

Fair Protein Supply

Deviled Tomatoes.—To 12 fine tomatoes, pared and sliced nearly half an inch thick, add the yolks of 3 hard boiled eggs (mashed), 3 tablespoon melted butter, same of vinegar, 2 raw eggs, beaten light, 1 teaspoon sugar and ½ teaspoon each of made mustard and salt, and a pinch of cayenne. Rub butter, mashed yolks, pepper, salt, mustard and sugar together, beat hard as you add the vinegar, and heat to a boil. Pour this upon the beaten raw eggs, and whip to a smooth cream: set in hot water while you broil the tomatoes. Lay them on a hot dish and pour the scalding hot dressing upon them. (The whites of the 2 eggs furnish the bulk of the protein afforded by this dish.)

Squash Puff.—2 cups squash, 1½ cups milk, 1 egg, 1 tablespoon butter, salt and pepper to taste. Beat all together, place on a baking dish and brown in the oven. (The milk and egg afford the meat substitute here.)

Potato Doughnuts.—With 1 pint hot mashed potatoes, mix 1 tablespoon butter, and 2 cups granulated sugar. Beat until the mixture is almost liquid. When lukewarm, add 3 well-beaten eggs, and stir in 1 cup of sweet milk and 3 cups flour, sifted three times, with 2 teaspoons baking powder. Flavor with nutmeg. Roll into a sheet about ¼-inch thick, and cut into shapes. Fry in deep hot fat. (Here again the milk and eggs afford fair amount of meat substitute material.)

Cornmeal Griddle Cakes.—One cup flour, 1 cup cornmeal, 2 teaspoons baking powder, 1½ cups sweet milk, 4 teaspoons melted butter. If sour milk is used, omit baking powder, and use ½ teaspoon soda. Sift dry ingredients together, add the milk a little at a time, and beat well. When all the milk is used, stir in the butter and drop by spoonfuls on a well-greased griddle. When light and brown on one side, turn. Serve very hot. (The milk furnishes most of the meat substitute material in this recipe.)

Macaroni Custard.—Cook 1 cup macaroni broken into inch pieces, 3 cups boiling water, seasoning with ½ teaspoon salt. When tender the water will be cooked away. Remove from stove and pour over the macaroni 3 eggs, beaten, seasoned with 1½ teaspoons salt, to which has been added 1½ cups sweet milk. Put in oven and cook one-half hour. (The meat substitute in this dish is chiefly the eggs and milk, supplemented by the little protein in the macaroni.)

Very Little Meat Substitute Material

Baked Green Corn.—Cut or grate 3 ears of green corn, add a large piece of butter, the yolk of 1 egg (left-over yolk) well beaten, cut the outside of a green pepper into small pieces, stir all well together, bake half an hour, or until brown.

Apple Dumplings Baked.—(The meat substitute in this is furnished chiefly by the sour milk.) Add to 2 cups sour milk 1 teaspoon soda, 1 teaspoon salt, ½ cup butter, and flour enough to make a soft dough. Peel and core apples, roll out crust, place apples on dough, fill cavity of each with sugar. Encase each apple in a coat of the crust, press the edges tightly together, place in a shallow pan so that dumplings do not touch each other, bake in a hot oven. Serve with cream and sugar.

German Fritters.—Cut slices of stale bread in rounds, and fry in hot lard like crullers to a light brown, then dip each slice in boiling milk and drain quickly. Dust with powdered sugar or spread with preserves or fruit. Pile on a hot plate and serve. (Only a very, very little meat substitute in this—in the very small percent afforded by the milk.)

Rice Pancakes.—One cup boiled rice, 1 beaten egg, 1 tablespoon sugar. Fry in small cakes, using lots of butter. Only a very small proportion of meat substitute in this recipe, for rice has little cell-making substance.)

Corn Salad.—Eighteen ears corn, 1 head of cabbage, 3 green peppers, 2 quarts white vinegar, 4 onions, ½ lb. mustard seed, ½ lb. white sugar, ¼ cup salt. Cut the corn from the cob, chop cabbage, peppers and onions very fine, mix all together and boil 20 minutes. Put all into a jar and it will keep all winter. (There is almost no meat substitute in this recipe, except the very small percents found in the green corn and the other vegetables, which are practically negligible for helping to keep up the necessary supply of cell-building material. However, this recipe furnishes a good relish, bulk and mineral salts, and so is a desirable adjunct to some meals.

SCHOOL DAYS AND SCHOOL LUNCHES

School days! What shall Billy and Jane have for their lunch? Let's see, what was left from breakfast—meat, fried potatoes, fried eggs, coffee, bread and butter. There is cake, pie, fritters, doughnuts, sausage, fried ham or pickles in the larder, and—

Wait, such foods should not be packed in the school lunch. A growing child at school must have plenty of good wholesome food and food that is easily digested. The less unnecessary tax put upon his digestive organs the more energy he will have to spare for mental work. No child can study well when his system is over-burdened with heavy concentrated food.

Wholesome foods suggested by Miss Bell are: (1) One chicken sandwich, Circular No. 10 of the University of Missouri are: Milk or cocoa; good wholesome sandwiches—two kinds rather than two of one kind: fresh, canned, and dried fruits; rice puddings, baked custards, junkets, gelatins; eggs in custards, or hard boiled and chopped fine for sandwich filling; bread and cookies with nuts and fruit; well-cooked cereals; green vegetables; small amounts of home-made candy.

Wholesome lunches suggested by Miss Bell are (1) Oone chicken sandwich, one jam sandwich, one apple, one glass of milk, one small piece of cake (two graham or plain crackers and two apples for recesses). (2) Ham sandwich, fudge sandwich, apple sauce, one glass of lemonade. (3) Brown bread and butter sandwich, cottage cheese sandwich, celery, one orange, nut and raisin cookies. (4) Minced ham sandwich, lettuce sandwich, or graham bread and butter sandwich with celery, baked custard, two apples.

Unwholesome lunches are: (1) Biscuits and sausage, mince pie. (2) Large pieces of bread, no butter; one slice of beef steak, cake. (3) Two pieces of corn bread with fried ham, two onions, one-fourth mince pie. (4) Two large soggy soda biscuits, two fried eggs, one-half custard pie. (5) Three fried ham sandwiches, two pieces cake.

Further suggestions concerning the cold school lunch, what it should contain and how it should be packed will be found in Circular 10. Copies of the circular may be had free of charge by addressing the College of Agriculture, Columbia, Mo.

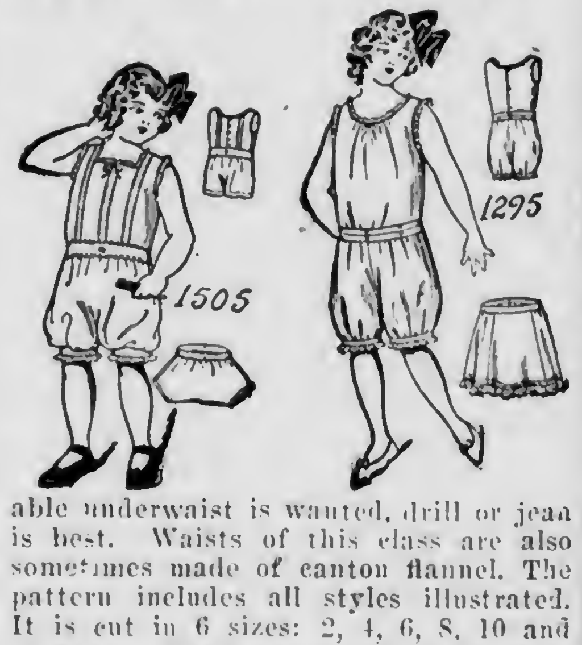
PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of ning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

Underwear Designs for Young Girls

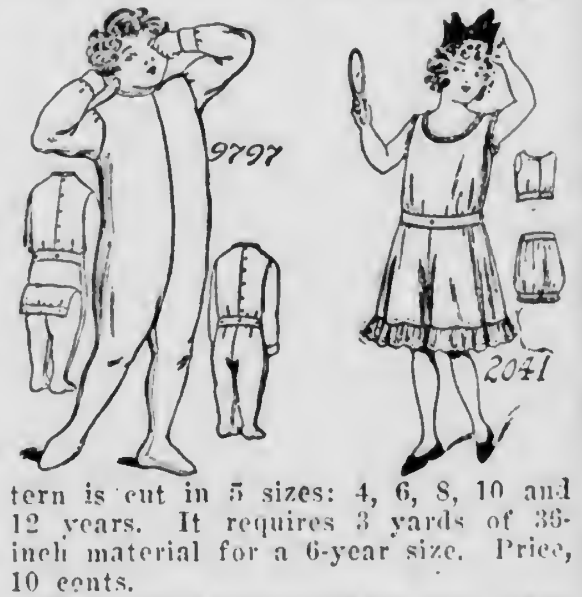
1505—Girls' Waist and Drawers.—Both garments are good for muslin, cambric, canton or domot flannel. The pattern is cut in 6 sizes: 2, 4, 6, 8, 10 and 12 years. It requires 1¼ yards for the waist and 1¼ yards for the drawers, of 36-inch material for an 8-year size. Price, 10 cents.

1295.—A Simple Set of Underwear for Girls.—Consisting of drawers, petticoat and underwaist. If a strong, durable underwaist is wanted, drill or jean is best. Waists of this class are also sometimes made of canton flannel. The pattern includes all styles illustrated. It is cut in 6 sizes: 2, 4, 6, 8, 10 and 12 years. The drawers require 1½ yards of 36-inch material, the petticoat requires 2 yards, and the underwaist 1¼ yards for a 10-year size. Price, 10 cents.



9797. — Child's Night Drawers. — Comfortable for cold weather. The pattern is cut in 5 sizes: 4, 6, 8, 10 and 12 years. It requires 3 yards of 36-inch material for a 6-year size. Price, 10 cents.

2041.—Girls' Under-Waist and Drawers.—In the style here portrayed, we have endeavored to give ample fulness without superfluous material. In bloomer style, the drawers are fine for winter wear. The pattern is cut in 6 sizes: 2, 4, 6, 8, 10 and 12 years. It requires 1 yard of 36-inch material for the waist, and 1¼ yards for the drawers, for an 8-year size. Ruffles on drawers will require about 2¼ yards of edging, 3½ inches wide. Price, 10 cents.



Tell by the Color

Have you ever noticed the color of your flour? Is it a dead chalky-white or a delicate creamy-white?

Color in flour is important, for by its color you can tell whether your flour has been bleached or otherwise chemically treated.

The bleaching of flour is similar to the artificial coloring of other food products. The best flour for bread, rolls, pies and cake is not bleached, but is a delicate creamy-white in color.

Learn to know this wholesome flour color. You will always recognize it in Pillsbury's Best, for the color of Pillsbury's Best flour is as Nature intended it.

Pillsbury's Best flour is not bleached. It never will be bleached. Its beautiful, creamy-white color is natural to good, clean wheat, carefully and honestly milled.

The Flour Question Settled

Because Pillsbury's Best

Pillsbury Flour Mills Company, Minneapolis, Minn.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Oct. 8, 1917.

Notwithstanding the fact that there has been a steady active demand for potatoes, shipments to this market have been very liberal, and offerings on Monday show another increase over the liberal offerings of the Monday previous. There was a total of 99 cars of bulk potatoes on the track in the Pennsylvania, and the Reading Railway Delivery yards, to begin the week's business. In addition there were 9 cars in sacks at the market house depot, 30th and Chestnut streets, besides those being hauled in by the Jersey farmers. Even under these liberal offerings, the demand and movement is very active, with the market ruling firm and showing quite some advance over last week. New Jersey Giants are selling readily at $1.25 to $1.30 per bushel at the yards, and in 150-lb. sacks they sell from $3.25 to $3.30. Pennsylvania round stock which always has the preference in this market sold generally from $1.40 to $1.50, with one car of extra fancy cleaning up quickly at $1.60. The few Eastern Shores that are arriving are also sharing in the advance and range about 50 cents per barrel higher than last week. Best stock sold at $4 to $4.25 per barrel, and No. 2's from $2 to $2.50. Jersey baskets are full 15 cents higher for best stock, which sells at 90 cents to $1 a basket, while No. 2's bring from 50 cents to 60 cents.

Sweet potatoes, on the other hand, are not so active and prices are generally easier. New Jerseys which comprised the bulk of the supplies are selling mostly from 65 to 75 cents. Only a few are arriving from the Eastern Shore and while some are selling at $3 quite a few bring only $2.75 and some poor ones $2.50. No. 2's sell principally at $2 to $2.25.

Vegetables

There are still quite a few nearby green and wax beans arriving in the market, but the quality is generally very poor, and prices are ruling low, at 75 cents per ⅝-bushel basket, with poorer stock ranging down as low as 40 cents. Strictly fancy tender young beans, however, would bring much more than these quotations. Lima beans sell about the same as last week, ranging from $1 to $1.25 per ⅝ bushel basket. Dried beans are fully 50 cents per bushel higher than last week. Best marrow bring around $9, with pea and medium selling at about $8.75. Red Kidney's show a decline of 50 to 75 cents, selling at $7.50. Beets are firm at 2 to 3 cents per bunch. Brussel sprouts are on the market with prices ranging from 15 to 18 cents per quart. Carrots remain steady at from $1.50 to $2.50 per 100 bunches and 65 to 85 cents per Jersey basket. Cabbage is in much lighter supply, there being only 16 cars here Monday, against a total of 41 cars the Monday previous. The market has advanced $2 to $3 per ton, with prices ranging from $24 to $27 per ton. Cauliflower is increasing in supply and prices are a little lower, crates of a dozen heads selling from $2.25 to $3.25 each, with tendency downward.

Celery continues active, fancy selling up to 80 cents per bunch for fancy large sizes, with smaller sizes ranging on down as low as 30 cents. Sugar corn is now selling quite low, and the quality is generally very poor and best stock is only bringing $1 to $1.50 per hundred. Only a very few were here this week and these sold from $1.25 to $1.50 per hundred. Eggplants did not hold their advance of last week as supplies became more liberal and the market dropped to 35 and 50 cents a basket. Horse radish is scarce and in active demand from $8 to $11 per barrel. The market on lettuce shows a further decline over last week and best stock now selling at $1 to $1.25 per box, with some poor and leafy sold as low as 65 cents.

Onions have reacted and following the slight decline of last week the market has been gradually advancing and prices are about 25 to 50 cents higher than last week. Ohio, Indiana and New York onions are selling at $3 to $5.25 per 100-lb. sack. Some from Massachusetts are a little off in quality and these sold from $2.75 to $3.10 per sack. Parsley continues plentiful and unchanged, selling from $1 to $1.50 per 100 bunches. Parsnips are easing off as supplies increase, now bringing 60 to 65 cents per basket. There have been no peas on the market during the last week. Peppers are again easier, green selling at 35 to 50 cents a basket, Cayenne, $1 to $1.50, and tomato peppers at 75 cents to $1. Squash is meeting practically no demand and sells all the way from 15 to 30 cents per basket. Many of the tomatoes arriving are showing very poor quality, and sales are ranging generally from 50 cents to $1 per ⅝-bushel basket. Strictly fancy are very scarce, and would readily bring from $1.25 to $1.50 per basket. Turnips remain about steady with white selling from 40 to 50 cents per basket, and yellow from 50 to 65 cents. Rutabagas are moving slowly at $1.25 per 100.

Fruits

Supplies of apples are moderate for the season of the year. On Monday there were 21 cars offered at the market house depot, while on the corresponding day a year ago there were 55 cars offered. Under these moderate receipts and a strong active demand the market is firm and higher, especially on the soft eating varieties. Prices are ranging about as follows: Wealthy, $3.50 to $5.50; Grimes Golden, $3 to $5.25; Gravenstein, $3 to $5; Smokehouse, $3 to $4.75; Johnathans, $4 to $6.50; Blush, $3.50 to $6; Greenings, $3 to $5; Baldwins, $2.50 to $4.50; Alexander, $3 to $5; Twenty Ounce, $3.50 to $5.50; York Imperials, $2.50 to $4.50; Bonum, $3 to $5.50; Staymans, $3 to $5.40; Black Bens and Gano, $2.50 to $4.25; Gillflower, $4.50 to $5.50; Hubs, $3.50 to $4.50; Kings, $3.50 to $5. Crab apples, $6 to $9 per barrel. Pears are rather easy, Bartletts selling from $1.50 to $2.50 per bushel; Seckels, $2 to $3, and barrels, $6 to $7.50; Sheldens, $7 to $8 per barrel. De Anjous, $5.50 per barrel, and Keiffer, $2.25 to $2.50. Peaches are quite better, New York State Elbertas bringing $1.75 to $1.90; Salways $2 to $2.25. [illegible] are [illegible] supply and moving free[illegible] Concords 15 to 18 cents; Niagaras, 17 [illegible] cents and Delawares, 18 to 19 cents per [illegible] basket. Concords in jumbo baskets [illegible] 70 to 75 cents. Plums continue in [illegible] and bring good prices, Damsons [illegible] at 50 to 60 cents; Reine Claudes, 55 to 60 cents; Prunes, 35 to 40 cents. Cranberries are held steady at $2.75 to $3 per crate. Cantaloupes from Colorado are now selling at $2.50 per crate of 45 melons. Chestnuts are increasing in supply and the market gradually declining with prices now ranging at $8.50 to $9.50 per bushel.

Poultry

While prices on live poultry are higher than last week, the market cannot be quoted as active. Fowl has to be very fancy to bring top quotations, which are ranging from 25 to 28 cents. Old roosters are being held at 20 to 21 cents. Spring chickens are in fairly liberal supply and are selling slowly and the market rules weak at 24 to 26 cents with Leghorns selling from 22 to 23 cents. Ducks rule about the same as last week. Young springs brings from 23 to 24 cents with old ducks from 20 to 25 cents. The few turkeys that are being offered range from 22 to 26 cents. Guineas are doing quite a little better. Young stock weighing 1½ to 2 lbs. each sell at 90 cents to $1 with smaller ones from 70 to 80 cents. Pigeons are unchanged at 20 to 25 cents per pair.

Dressed fowls continue to rule very firm under a demand fully equal to the light offerings of fancy stock, which are selling from 29 to 32 cents, with smaller sizes from 28 to 29 cents. Fancy roasters and broiling chickens are firm, but poor and ordinary are dull and irregular in value. Roasters are selling at 25 to 30 cents, and nearby broilers from 33 to 36 cents, with others from 28 to 30 cents. A few western turkeys are selling at 24 to 25 cents. Ducks are a little easier, ranging from 24 to 26 cents.

Eggs

There has been no change to be noted in the egg market during the past week. Strictly fancy fresh laid eggs are scarce and sell quickly upon arrival, and often at a premium. The medium grades, and stock more or less unattractive is receiving very little attention from the buyers and these rule dull and the market weak. Pennsylvania and other nearby firsts are quotable at 42c; current receipts, 41 cents; seconds, 37½ cents; Western extra firsts, 42 cents; firsts, 41 cents; seconds, 37½ cents and southern eggs are selling at 39 to 40 cents.

YORK PRODUCE MARKET

York, Pa., Oct. 8, 1917.

This week is usually called old time fair week, and as the truckers hear this they usually make arrangements for an off week so far as markets are concerned. This week was no exception. Markets were poorly attended and the buying was slow. Yet the prices changed very little. The inquiry for the winter supply of potatoes was large. Buyers feel they ought to have them for $1 to $1.15 while the growers claim this will not let them out. Quotations have advanced to $1.25 per bushel. Apples are exceptionally dull. First-class Smokehouse and Grimes selling as low as 15 cents per ½ peck.

Eggs—42@48c per dozen.

Butter.—Country, 42@46c lb; separator, 44@48c lb. Milk, 10c quart.

Poultry.—Market dull; 18@20c lb; 45c @$1.35 dressed.

Vegetables.—Potatoes, 12@18c ½ pk; $1 @$1.25 per bushel. Cabbage, 3@8c head. Lettuce, 3@5c head. Radishes, 5c bunch. Beets, 5 box. Onions, scarce, 8@10c box; 10@15c pk. Lima beans, 18@22c quart. Soup beans, 35c quart. Celery, 5@8c stalk. Tomatoes, 7@10c box; 18@30c ½ pk. Turnips, 10@15c ½ pk. Corn, 25@30c dozen. Eggplants, 3@8c each.

Fruits.—Apples, 10@25c ½ pk. Plums, 5 @10c bx. Peaches, 60c@$1 basket. Pears, 8@10c bx; 15@20c ½ pk. Canteloupes, 2 @6c each.

Retail Grain Market.—Wheat, $2.25; corn, $2; oats, 90c; rye, $1.50; bran, $2 per cwt; middlings, $3 per cwt.

Wholesale Grain Market.—Wheat, $2.05; corn, $1.90; oats, 72c; rye, $1.25; bran, $38 per ton; middlings, $58 per ton.

LANCASTER PRODUCE

Lancaster, Pa., Oct. 8, 1917.

Lard was advanced here today by butchers and farmers to 35 cents in some cases, with 32 cents the prevailing rate. There was an oversupply of turnips, and they sold for 15 and 20 cents. Corn was scarce and the best brought 30 cents a dozen. Small ears sold as low as 10 cents. Prices of tomatoes took a tumble and many sales at 50 cents a basket were recorded.

Butter and Eggs.—Creamery butter, 50 cents per lb; country butter, 48c; fresh eggs, 43c per dozen.

Poultry.—Old dressed chickens, $1.25@1.50; young, 75c@$1; live chickens, $1.50 @$2 per pair; old, 18c per lb.

Vegetables and Fruits.—Tomatoes, 50c basket; 15@20c ½ pk; spinach, 5c ½ pk; new turnips, 15@20c ½pk; potatoes, 15@20c ½ pk., $1.15@1.40 bushel; sweet potatoes, 30c ½ pk; cabbage, 2@8c each; pickles, 20@35c per 100; eggplant, 5@10c each; cauliflower, 15@20c head; onions, dry box, 5c; celery, 5@10c bunch; lima beans, 12@15c pint; corn, 10@30c doz; watermelons, 10@30c each; peaches, 25c ½ pk. do., 60@75c basket; pears, 15c, ½ pk; apples, 10@20c ½ pk.

Grain.—Wheat, $2 bushel; damp wheat, $1.80; ear corn, $1.90; corn, $2; rye, $1.65; timothy hay, $18@19 ton; mixed hay, $16 @18; wheat straw, $11@12.

NEW YORK PRODUCE

New York City, Oct. 8, 1917.

Butter declines quite sharply. Cheese is unsettled and lower. Fancy eggs are steady but others are dull and irregular. Potatoes firm. Fancy apples in good demand.

Butter—Creamery, extras (92 score), per pound 44½c; higher score, 44¼@45½c; thirds to firsts, 40@44c; state dairy, 39@42c; ladles, 37@41c.

Cheese — Fresh colored specials, 26c; white, [illegible] undergrades, 13@20½c.

Eggs—Fresh gathered extras, 45@46c; extra firsts, 43@44c; nearby white, fine to fancy, [illegible]; ordinary to good, 45@58c; browns, [illegible].

Dressed Poultry.—Philadelphia and Long Island [illegible] fancy, 36@38c; old roosters, [illegible] fowls, [illegible] $2.00@5.50 per dozen. [illegible] 24@26c; turkeys, [illegible] 38c.

[illegible] Greens. — Beans, per bu. [illegible] Beets, per bbl., $2.50@3.00 [illegible] per 100-lb. bag, $2.00@3.50. Potatoes, Jersey, $3.00@4.25 per bbl. Carrots [illegible] Cucumbers, $1@2 [illegible] $2.50@4; tomatoes, Jersey, 50c@$2 per box.

Apples.—Wealthy, $2@6.50 bbl; Duchess, $3@5; Gravenstein, $3@5; Summer Pippin, $2.50@5.50; ordinary sorts, $1.50 @3.50.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., Oct. 8, 1917.

The receipts of cattle for today's market were 273 cars as compared with 329 cars last Monday and 247 cars the corresponding Monday in 1916. This supply came from Virginia. 133 cars; Chicago, 61; St. Pau 35; Buffalo, 16; New York, 6; Pennsylvania, 4; Maryland, 4; Indianapolis, 4; Pittsburgh, 5; Kansas City, 2; Cincinatti, 2; St. Louis, 1.

The receipts from the West showed a very decided decrease from last week, but "Ole Virginny" sent about the same number and the stuff was about the same kind. The report of heavy receipts West, coupled with the big supply of butcher stuff here, gave buyers for that kind an opportunity to "bear" the price and they got away with it. Some salesmen thought butcher steers were 40 cents lower than last week, but a fair statement would be about 25 cents lower. That applied to good, fair and bad. The only things in the killing line that held steady were good heifers and good fat cows. A common kind, even a fair kind, of "she" stuff for slaughterers' uses sold all of 25 cents lower.

Some of the representative sales were as follows: One load of Virginia steers of fair quality and considerable fat weighing 1,280 lbs. sold at $12.10. Another load pretty coarse but fat and weighing 1,260 lbs. sold at $11.50. Another load of coarse fat Virginia steers sold at $11.25 and another load of the same grade that weighed 1170 sold at $11. A good many sales of a class of Virginia steers suitable for Eastern Pennsylvania town butcher trade weighed 900 to 1,000 lbs. and sold at $9.75 to $10.50. One car of pretty good Virginia heifers weighed 950 and sold at 10 cents per lb.

The supply of stockers and feeders was not as heavy as was the supply a week ago, but not as many buyers came as did last Monday. Prices for strictly good thin to fair fleshed feeders weighing 800 to 1,000 lbs. was fully steady, but everything in the feeder line below that grade sold 10 to 15 cents lower. A class of Virginia steers shipped here to sell for beef purposes, went for feeders because they brought more for farmers' use than they were worth for slaughterers' uses. This is the first time this year that this condition of affairs has presented itself, and was due to the fact that southern pastures are now being cleared of their cattle and the Eastern Markets, Baltimore, New York and Philadelphia, are oversupplied with them. There were practically no Eastern buyers representing packing houses on this market today. Last Monday that class of buyers took all the handy butcher steers on sale here.

Some of the representative sales of this class of Virginia feeders were as follows: One car, 1,080 lbs., at $11.25; 1 car, 1,050 lbs., at $11; 1 car, 975 lbs., at $10.50; 1 car, 900 lbs., at $10.

A nice kind of 750 to 850 lbs. feeders from Western markets sold at $9 to $9.50. A grade that were a shade off from these, but weighed about the same, sold at $8.50 to $8.85. A plain kind of feeders weighing 800 to 900 lbs. sold at $8.25 to $8.60. A fair grade of stockers weighing 700 lbs. sold at $7.50 to $8, and a common kind of stockers weighing 500 to 650 lbs. sold at $6.50 to $7. There was a few odd bunches of little runts selling at 6 cents per lb.

The hog market showed some activity, no doubt, inspired by the tinge of frost in the atmosphere hereabouts for the past 3 or 4 days. The best Western hogs sold at $20 to $20.25 per cwt. A record grade of Western hogs at $19.75. Lancaster County-fed hogs sold at 19 to 19½ cents.

Eastern Pennsylvania farmers appear to be getting over their fear of the future in beef-making, because the past three weeks they have taken a lot of feeders. In this no doubt they are acting wisely, because when vegetation is done the heavy runs at Western markets that have characterized the trade the past two weeks, will be but a memory. Western ranchmen are cleaning up their herds on account of a shortage of winter feed. This throws a large number of ranch cattle on the market for slaughtering purposes which take the place of the fairly good native killers, and the result is a stiff depression in the price of the natives. It is the smaller ranchmen that are cleaning up. Their experience during the long and severe winter of 1916 when many of their cattle perished, has not been forgotten and they evidently don't propose to be caught in a similar predicament this winter, and are disposing of their cattle while the disposing is good. This is rather unfortunate for the future meat situation, but necessity knows no law, and laughs at Food Administrators' announcements.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Oct. 8, 1917.

Baled Hay and Straw.—Receipts, 96 tons of hay and no straw. Desirable grades of both hay and straw were pretty well cleaned up at firm prices.

Timothy hay (according to location)—No. 1 large bales, $23@23.50; No. 1 small bales, $23@23.50; No. 2, $21@22; No. 3, $19@20. Clover mixed hay—Light mixed, $21@22; No. 1 do., $21@22; No. 2 do., $20@20.50.

Straw.—No. 1 straight rye, $18@19; No. 2 do., $14@14.50; No. 1 tangled rye, $14 @14.50; No. 2 do., $13@13.50; No. 1 wheat straw, $11.50@12; No. 2 do., $10.50 @11; No. 1 oat straw, $11.50@12; No. 2 do., $10.50@11.

Wheat.—No. 2 red, $2.24; No. 2, soft red, $2.22; mixed wheat 2c off.

Corn.—No. 2 yellow, $2.15@2.20.

Oats.—No. 2, 66@66½c; No. 3, 65@65½c.

PITTSBURGH HAY AND GRAIN MARKET

Pittsburgh, Pa., Oct. 8, 1917.

Hay.—The scarcity of hay to this market still continues. There is no difficulty in disposing of any and all shipments at top values, even threshed hay selling at $18 to $19 per ton as also no grade hay.

No. 1 timothy, $24.50@25; No. 2 timothy, $22.50@23.50; No. 3 timothy, $20@20.50; No. 1 light mixed, $22.50@23; No. 1 clover mixed, $22@22.50; No. 2 clover mixed, $20@21; No. 1 clover, $22.50@23; No. 2 clover, $19.50@20.50.

Straw. — Demand altho not urgent is steady market strong.

No. 1 oat, $11.25@11.50; No. 2 oat, $11 @11.25; No. 1 wheat, $10.75@$11; No. 2 wheat, $10.25@10.50; No. 1 rye, $11@11.50; No. 2 rye, $10@10.50.

Ear Corn.—Demand somewhat lax, buyers being loathe to pay high prices asked. Arrivals while not heavy are being disposed of slowly.

No. 2 yellow, $2.11@2.12; No. 3 yellow, $2.07@2.11; No. 2 high mixed, $2.09@2.10; No. 2 mixed, $2.07@2.08.

NEW YORK HAY AND GRAIN

New York City, Oct. 8, 1917.

Feed.—No price changes of note were made in this market today. The tone ruled steady. Spot goods, particularly of Western feeds, are low, but for distant shipment mill offerings are fairly liberal, as wheat shipments to primary centers are expected to continue up to the average. There is not much demand, however, either for spot or nearby delivery. Consumers have apparently covered their wants for the time being. City feed is about in the same position. Quoted: Western spring in 100-pound sacks, $35.75; standard middling, $41.50; flour in 100-pound sacks, $51 to arrive; red dog to arrive in 100-pound sacks, $62.50; city feed bulk bran, $36; 100-pound sacks, $37; heavy feed, 100-pound sacks, $42; red dog, $66.50; flour, $65. Linseed oil meal, $54 per ton.

Hay and Straw.—Very little change in the position of the market. Moderate arrivals at most sheds, and the offerings are being cleared at well sustained figures.

Wheat.—No. 2 red, $2.25.

Corn.—No. 2 yellow, $2.07; No. 2, mixed, $2.03.

Oats.—No. 2 white, 67c; Standard, 66c.

Rye.—$1.91.

NEW YORK MILK MARKET

New York City, Oct. 8, 1917.

The Jewish holidays are over and there is a moderate increase in receipts. They are far from nomal, however. A growing surplus is reported, owing to decreased demand and increased production. The decrease in demand has been reported by some distributors to lie between 25 and 33 1-3 percent. Increase in retail rates is the chief cause. It is reported that at least 100 shipping stations have been closed because of inability to take care of the surplus. If there is any reason other than those announced by producers and distributors for the increase in prices, it is likely to be discovered, for Mr. Hoover, the new state food control commissioner, District Attorney Swann, of New York County, and a Mayors' Commission have all undertaken to find the causes. District Attorney Swann and the Mayors' Commission have already gotten to work. They are hearing evidence as to the cost of production and distribution. The Mayors' Commission was named owing to a statement by Dr. Haven Emersen, Commissioner of Health, that not less than 400 children had died of malnutrition due to lack of sufficient milk, their parents failing to procure it because of the high price.

League rates for October for Grade B (barn score 55) to the producer in the 26-cent zone are $3.10 per cwt. for 3 percent milk; $3.34, or 7.1 cents for 3.6 percent milk and $3.50 for 4 percent milk. Receipts of milk and cream in 40-quarts cans for week ending October 6 were as follows:

Railroad	Milk	Cream
Erie	39,988	1,412
Susquehanna	4,472	21
West Shore	11,960	1,040
Lackawanna	63,750	1,975
N. Y. Central (long haul) including Rutland	130,150	2,859
Ontario	38,098	2,0[illegible]
Lehigh Valley	40,918	622
New Haven	3,434	3
Pennsylvania	10,790	430
Other sources	6,590	210
Totals	350,150	10,9[illegible]
Same week last year	Strike	Strike

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Oct. 8, 1917.

Butter.—Offerings were light and the market ruled firm at the recent advance, but wholesale trade, as usual on the last day of the week was quiet. Fancy solid-packed creamery readily brought the outside rate, while the under grades were pretty well cleaned up at inside figues. Prints of fine quality were scarce and firm, but unattractive qualities were slow of sale and irregular in value.

Western, fresh, solid-packed creamery, fancy specials, 48c; extra, 46@47c; extra firsts, 45½c; firsts, 44½c; seconds, 43@43½c; nearby prints, fancy, 50c; average extras, 47@49c; firsts, 45@46c; seconds, 43@44c; special fancy brands of prints were jobbing at 53@56c.

TOBACCO MARKET

The market situation has been very appropriately blockaded by the almost universal refusal of growers to contract before the quality of product is known and a general market price established. Local dealers and large buyers are thus perturbed as to the outcome which they very rightfully estimate will not be favorable to them. It would seem that local packers who got such a small part of the crop last year may get even less this and that in conformity with other parts of the country those middlemen may have to seek some other vocation. The week was characterized by probably the largest sale of the locality for years the same consisting of 2,900 cases, all of the 1916 product. The Imperial Tobacco Co., of London, was the principal buyer and a New York firm took most of the remainder. The relatively small part of the present crop yet in the field was damaged in some localities by another hail storm, of which there have been so many this season. The total loss was conservatively estimated at $200,000. Illustrating the amount of hail which fell, it was said that fifty to one hundred bushels of stones could have been found in a single pile and that along highways they were in places up to the axle of passing machines. However, the crop is now largely under cover and nothing save a premature freeze could cause any serious damage. Much of the crop was cut more or less immature but the ill effect of this will not greatly influence the quality of the cured leaf.—H. Tweed, Oct. 8, 1917.

Food Problem Discussed

Mr. Hoover Before Penna. Meeting

In order that the people of Pennsylvania might have a better understanding of the needs of the nation in regard to food production and conservation, and to explain the work and purposes of the national food administration, Herbert Hoover attended and addressed a meeting in Philadelphia last week. Representatives were present from every section of the state.

Director Hoover spoke, in part as follows:

The first of our concerns is production—of increased production; the second is conservation of the supplies which we have; third, matters of regulation of speculation and the illicit practice in trade of the control of price; fourth, control of food exports in such a manner that we must not favor our enemy and at the same time support our Allies, and fifth, we have to guide the actual purchase of foodstuffs for our own army and navy and for the Allies within the United States.

Our Allies have always imported a large portion of their food; that import, in cereals, amounted to 750,000,000 bushels annually. Their markets have been enormously disturbed; many have been absolutely cut off, and the diminishing shipping makes the markets of the world which are still open inaccessible.

Normal exports of foodstuffs to our Allies, even under peace conditions, largely rests upon ourselves and Canada. Exports of cereals from the United States for the three-year pre-war period averaged 120,000,000 bushels a year. In addition to the maintenance of a normal supply, we have the very disastrous condition of the continuously diminishing production. It is impossible to take 40,000,000 men from productive labor and devote them to war without cutting into the vitals of food production itself.

Still Enormous Deficiency

The women have gone into the field; they have made every exertion, but there is still an enormous deficiency. That deficiency has been contributed to by stoppage of cereals and the diminution of animals, until on cereals alone this year's production falls below last year's by 525,000,000 bushels.

Therefore we have a load of 1,250,000,000 bushels of grain to preserve the normal food consumption of our Allies. This is a load that is beyond our capacity, beyond the combined capacity of the United States and Canada. There is no way of meeting that situation except that after we have exported the last grain that we can export, they must reduce their consumption to a point where the two ends meet.

It is physiologically possible to reduce the food consumption by 40 percent, but soldiers in the trenches, men in the shops, working overtime, and millions of women put to physical labor, require more food than in times of peace. The result is that all privation by the reduction of consumption operates toward the most helpless class in the community—that is, the old and the women and the children, so that any deficiency in our supplies affects directly the class less able to stand such privation.

Animals and Fodder

The problem of animals becomes of practical character to us this very day. Europe, with a shortage of fodder and largely reduced herds, has cut her fodder imports rather than her bread grains. The result has been ruthless killing of animals. That must go on during the war with increasing degree.

Europe has nearly always supplied her own animal products. She has imported a comparatively small amount of fat. She has imported largely in cereals for the fodder and in bread grains for human food. But with diminished animals she will have less demand for fodder and therefore more particularly for the production of bread grain. The people will of necessity turn their agriculture from the production of fodder to the production of bread, and we, in the meantime, must be prepared to take a like turn.

During the last year we have slaughtered in hogs alone a large percentage of our population in hogs. This means one thing—that as we have increased our exports of animal products, and that largely pork products, from 500,000,000-pound pre-war average to 1,500,000,000 pounds in the last twelve months, that we have overexported the capacity of this country. Today we are faced with a shortage in fats at the very moment when we must be increasing our exports to our Allies.

Form of National Saving

Conservation also has the aspect of national saving. War is paid for out of the savings of the people. All delays in the payment are obtained by credits, by inflation, and they become subsequently burdens. Therefore, if we could by any means so reduce the expenditure of commodities, so eliminate the non-productive labor of this country that we could spare the labor of our men engaged in the trenches, and spare the production of the commodities to keep them and our Allies supplied, we shall have gone thru the war without national cost. That is not to be obtained. But thru conservation of food we can contribute.

Question of Export Control

The wheat of this country is from 30 to 40 percent above the export market this year. Therefore, the export price controls the price and that export price is in one man's hands and that is the man at the head of the food administration. It has ceased putting out export wheat except among the Allies. That duty, therefore, that function of the Food Administration is totally suspended, and must be totally suspended, and it must be fixed by the export price.

We have many problems to consider. All the fat supplies are in the hands of the food administration and it is therefore for the administration to make the price. It is easy enough for the Government to fix the price, but when you endow the Government to purchase such a commodity, the Government will have to fix the price, and in so doing, endeavor to avoid speculation.

We find that our production is falling below our necessities and the necessities of the Allies. Therefore, it was demanded that we maintain a price level sufficient to encourage the producer and protect the producing class, and then to consider the consumer's class until we may have secured a better balance as between the principle of production and consumption.

Farmers Have Done Well

I have, right thru, asked the farmers if we can get that volunteer co-operation of the whole people, and they have done well in producing the result that has been produced. The difference between democracy and autocracy is a question of whether people can be organized from the bottom up or from the top down. If the latter, the moment we have done this we are reduced to autocracy.

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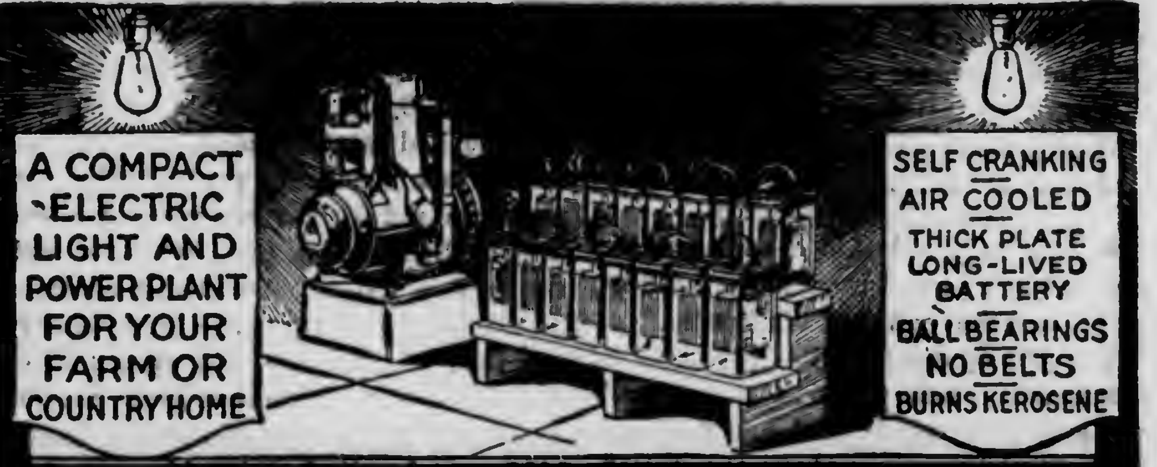
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NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

SYNOPSIS OF PREVIOUS CHAPTER

Henry de Spain had come to the little mountain town of Sleepy Cat to participate in a shooting match. Matched against Nan Morgan, he was defeated, and the Morgans, of Morgan's Gap, won all of the money placed by the Sleepy Cat crowd. De Spain was disgusted with his showing and anxious to return to his home town, Medicine Bend. But Mr. Jeffries, Division Manager of the local railroad, offered de Spain a position as General Manager of the stage line running thru Morgan's Gap to Sleepy Cat. Disgusted with the events of the day, de Spain resolves to refuse the position.

CHAPTER II

The Thief River Stage Line

Sleepy Cat has little to distinguish it in its casual appearance from the ordinary mountain railroad town of the western Rockies. The long, handsome railroad station, the eating-house, and the various division-headquarters buildings characteristic of such towns are in Sleepy Cat built of local granite. The yard facilities, shops, and roundhouses are the last word in modern railroad construction, and the division has not infrequently held the medal for safety records.

But more than these things go toward making up the real Sleepy Cat. It is a community with earlier-than-railroad traditions. Sleepy Cat has been more or less of a settlement almost since the day of Jim Bridger, and its isolated position in the midst of a country of vast deserts, far mountain ranges, and widely separated watercourses has made it from the earliest Western days a rendezvous for hunters, trappers, emigrants, prospectors, and adventurers—and these have all, in some measure, left their impress on the town.

Sleepy Cat lies prettily on a high plateau north and east of the railroad, which makes a detour here to the north to round the Superstition Range; it a county-seat, and this, where counties are as large as ordinary Eastern States, gives it some political distinction.

The principal street lies just north of the railroad, and parallels it. A modern and substantial hotel has for some years filled the corner above the station. The hotel was built by Harry Tenison soon after the opening of the Thief River gold-fields. Along Main Street to the west are strung the usual mountain stores and saloons, but to the north a pretty residence district has been built up about the court-house square. And a good water-supply, pumped from Rat River, a brawling mountain stream that flows just south of the town, has encouraged the care of lawns and trees.

Before de Spain had walked far he heard music from the open-air dancing-pavilion in Grant Street. Stirred by an idle curiosity, he turned the corner and stopped to watch the crowded couples whirling up and down the raised platform under paper lanterns and red streamers to the music of an automatic piano. He took his place in a fringe of onlookers that filled the sidewalk. But he was thinking as he stood, not of the boisterous dancing or the clumsy dancers, but of the broken lever and the defeat at the fair-grounds. It still rankled in his mind. While he stood thinking the music ceased.

A man, who appeared to be in authority, walked to the center of the dancing-floor and made an announcement that de Spain failed to catch. The manager apparently repeated it to those of his patrons that crowded around him, and more than once to individual inquirers who had not caught the purport of what had been said. These late comers he pushed back, and when the floor had been well cleared he nodded to the boy operating the piano, and looked toward a young couple standing in an attitude of waiting at the head of the hall.

All eyes being turned their way, de Spain's attention as well was drawn toward them. The man was powerful in stature, and rather too heavy, but straight as an Indian. His small, reddish face was tanned by the sun and wind, and his manner as he stood with arms akimbo, his hands resting on his belt, facing his partner and talking to her, had the confidence of a man at ease with women. From the handsome hat which, as he turned to his partner for the dance, he sent spinning toward a table beside the piano, the soft brown shirt and flowing tie, down to the small, high-heeled and spurred boots, he wore the distinctive cowboy rig of the mountains, even to the heavy hip-holster, in which his revolver was slung. He was, in fact, rather too smartly dressed, too confident in manner to please de Spain, who was in no mood to be pleased anyway, and who could conceive a dislike for a man the instant he set eyes on him—and a liking as quickly. He seemed to recall, too, that this particular fellow had crowed the loudest when he himself forfeited the shooting-match earlier in the day.

But de Spain, unamiable as he now was, looked with unconcealed interest at the man's dancing partner. She, too, was browned by the mountain sun and air—a slight, erect girl, her head well set, and a delicate waist-line above a belted brown skirt, which just reached the tops of her high, tan riding-boots. She wore a soft, French-gray Stetson hat. Her dark-brown hair was deftly hidden under it, but troublesome ringlets strayed about her ears as if she had not seen a glass for hours, and these, standing first with one hand and then the other laid against her leather belt, she put up into place, and as if not wholly at ease with her surroundings. Instead of looking at her partner, who talked to her while waiting, her eyes, noticeably pretty, wandered about the platform, resting at moments on the closely drawn lines of spectators. They reflected in their unrest the dissatisfied expression of her face. A talkative woman standing just in front of de Spain told a companion that the man was Gale Morgan, a nephew of Satterlee, laziest of the Morgans. De Spain, who never had to look twice at any woman, at once recognized in the dancing partner the little Music Mountain girl who had been his undoing at the target; the woman added that Nan was, in some hazy degree, Gale's cousin.

The energetic piano thumped the strains of a two-step. Gale Morgan extended his arm toward Nan; she looked very slight at his side. But instead of taking her position, she drew back, looking up and frowning as she seemed to speak objectingly to Gale. De Spain saw her hesitation without catching its import. The talkative woman near at hand was more divining. "Lord, that Nan Morgan makes me tired," she exclaimed to her gum-chewing companion. "Ever see anything like her? First she wouldn't dance unless the floor was cleared—Sleepy Cat folks ain't good enough for them Music Mountain cattle thieves! And now the music doesn't suit her. Listen to that boob of a boy trying one piece after another to get one to suit my outlaw lady. Nerve!"

But while the impatient woman chafed, the right tune was found and Nan Morgan's face, as she watched the manipulator of the piano, brightened. "Faster!" she cried under her breath, taking her position on her cousin's arm. Then, responding with a sort of fiery impatience to her partner's guiding, she caught the rapid step of the music, and together the two swept down the floor.

Whatever the impatience of the crowd over the finicky start, the spectators showed their admiration of the dancing with unrestrained hand-clapping, and followed with approving outcries. De Spain, standing apart, watched Nan's flying feet, wondering how she and her people could possibly be what they were painted, and whether they really were so or not. Every swaying step, every agile turn proved how sure she was of herself, and how perfectly her body answered to every exaction of the quick movement of the dance. Gale Morgan seemed the merest attendant for his partner, who, with quickened pulses, gave herself up more and more to the lively call of the music.

Once the two swung away out, near de Spain's corner. As Nan whirled by, de Spain, either with the infection of the music or from her nearness to him, caught his breath. His eyes riveted themselves on her flushed face as she passed—oblivious of his presence—and he recalled how in the morning she had handled her rifle in the same quick, sure way. De Spain could not dance at all; but no one could successfully accuse him of not knowing how to handle any sort of a gun. It was only now, as she came so very close to him for the first time since the mortification of the morning, and he saw the smoothness of her pink-brown cheeks, that he could ungrudgingly give her full credit for shooting him down. He forgave her, unasked, the humiliation she had put on him. He felt an impulse to go up to her—now that she had stopped dancing—and congratulate her honestly, instead of boorishly as he had done at the match, and to say, unreservedly, that she was the better shot—indeed, one of the best he had ever seen.

But while he thought all of this he did not stir a step. The two dancers at once disappeared, and a new and rougher party crowded out on the floor.

"Now, isn't that a pretty bunch!" exclaimed the critical woman again. "That's the Calabasas gang. Look at those four men with the red neckerchiefs. Sandusky, that big fellow, with the crooked jaw—Butch, they call him—and his jaw's not half as crooked as Sandusky himself either. He couldn't lie in bed straight. And Harvey Logan, with his black hair plastered over his eyes. Why, for one drink those two fellows would turn loose on this crowd and kill half a dozen. And there's two of Duke Morgan's cowboys with them, boozing old Bull Page, and that squint-eyed Sassoon—he's worse than the others, that fellow—a fine bunch to allow in this town."

De Spain had excellent ears. He had heard of these Calabasas men—of Sandusky and of the little fellow, Logan. They had much more than a local reputation as outlaws; they were known from one end of the Superstition Range to the other as evil-doers of more than ordinary ruthlessness. De Spain, from force of habit, studied every detail of their make-up. Both showed more than traces of drink, and both securing partners joined rudely in the dancing. It had become second nature to de Spain to note even insignificant details concerning men, and he took an interest in and remarked how very low Logan carried his gun in front of his hip. Sandusky's holster was slung higher and farther back on the side. Logan wore a tan shirt and khaki: Sandusky, coatless, was dressed in a white shirt, with a red tie, and wore a soiled, figured waistcoat fastened at the bottom by a cutglass button.

The Sleepy Cat gossip commented on how much money these men had been spending all day. She wondered aloud, reckless apparently of consequences, who had been robbed, lately, to provide it. Her companion scolded her for stirring up talk that might make trouble; averred she didn't believe half the stories she heard; asserted that these men lived quietly at Calabasas, minding their own affairs. "And they're kind to poor folks, too." "Sure," grimaced the obdurate one, "with other people's money." De Spain had no difficulty in placing the two women. One was undoubtedly the wife of a railroad man, who hated the mountain outlaws, and the other was, with equal certainty, a town sympathizer with slandered men, and the two represented the two community elements in Sleepy Cat.

De Spain, discontented, turning again into Main Street, continued on toward the Thief River stage barn. He knew an old Scotch Medicine Bend barnman that worked there, a boyhood friend; but the man, McAlpin, was out. After looking the horses over and inspecting the wagons with a new but mild curiosity, awakened by Jeffries' proposal, de Spain walked back toward the station. He had virtually decided not to take the job that Jeffries painted as so attractive, and resolved now to take the night train back to Medicine Bend. Medicine Bend was his home. He knew every man, woman, and child in the town. Before the tragic death of his father, his mother had lived there, and de Spain had grown up in the town and gone to school there. He was a railroad man, anyway—a modest trainmaster—and not eager for stage-line management.

The prospect of reducing the Sinks to a law-and-order basis at his own proper risk could not be alluring to the most aggressive of law-and-order men—and de Spain was not aggressive. Yet within a moment of his sensible decision he was to be hurried by a mere accident to an exactly contrary fate.

As he passed Grant Street again he encountered a party on horseback heading for the river bridge. Trotting their horses leisurely, they turned the corner directly in front of de Spain. There were five in company. Three of the men were riding abreast and a little ahead. Of these, the middle horseman was a spare man of forty years, with a black military hat, and a frankly disreputable air. His face was drawn up into a one-sided smile, marked by a deep, vertical wrinkle running up, close to his nose, from the corner of his mouth almost to the inner corner of his eye. Satt Morgan's smile was habitual and lessened his stern aspect. At his right rode his cousin, Duke Morgan, older, shorter, and stouter. His square, heavy-jawed, smooth-shaven face was lighted by hard, keen eyes, and finished by an uncompromising chin. Duke was the real head of the clan, of which there were numerous branches in the Superstition Mountains, all [illegible]

with friendliness or enmity to the Morgans of Morgan's Gap.

The yellow-haired man riding on the left, with a red face and red-lidded, squinting eyes, was in stature something between the two Morgans, and about the age of the elder cousin. His shoulders slouched, and he showed none of the blood of his companions. But this man, David Sassoon, the Calabasas gambler, quondam cowboy, and chronic brawler, stood in some way close to the different Morgans, and was reputed to have got each of them, at different times, out of more than one troublesome affair, either by sheer force of arms or than his resourceful cunning.

These men were followed by a younger man riding with a very young woman. De Spain knew none of the front-rank men, but he knew well Nan Morgan and her dancing partner.

They were talking together, and Nan seemed from her manner at odds with her companion. He appeared to be trying to laugh the situation off when he caught sight of de Spain pausing for them to pass. Gale's face lighted as he set eyes on him, and he spoke quickly to Nan. De Spain could not at first hear his words, but he needed no ears to interpret his laugh and the expression on his face. Nan, persistently importuned, looked around. She saw de Spain, much closer, it would seem, than she had expected to see a man looking directly at her, and her eyes rested on him only a moment. The substance of her cousin's words she apparently had not caught, and he repeated them in a louder voice: "There's your handsome Medicine Bend gunman!"

Nan, glancing again toward de Spain, seemed aware that he heard. She looked away. De Spain tightened up with a rage. The blood rushed to his face, the sarcasm struck in. If the birthmark could have deepened with humiliation it would have done so at the instant of the cold inspection of the girl's pretty eyes. But he cared less for Nan's inspection, cold as it was, than for the jibe of her satisfied cousin. Not content, Gale, calling ahead to the others, invited their attention to the man on the street corner. De Spain felt minded to hurl an insult at them in a body. It would have been four to one—rather awkward odds even if they were mounted—and there was a woman. But he only stood still, returning their inspection as insolently as silence could. Each face was faithfully photographed and filed in his memory, and his steady gaze followed them until they rode down the hill and clattered jauntily out on the swaying suspension bridge that still crosses the Rat River at Grant Street, and connects the whole south country—the Spanish Sinks, the Thief River gold fields, the saw-toothed Superstition Range, Morgan's Gap, and Music Mountain with Sleepy Cat and the railroad.

De Spain, walking down Grant Street, watched the party disappear among the hills across the river. The encounter had stirred him. He already hated the Morgans, at least all except the blue-eyed girl, and she, it was not difficult to divine from her expression, was, at least, disdainful of her morning rival.

Reaching the station platform while still busy with his thoughts, de Spain encountered Jeffries and Lefever.

"When are you coming up to take my job, Henry?" demanded the superintendent without any parley.

"I am not coming up," announced de Spain bluntly.

"Not coming up, eh? All right, we'll find somebody that will come up," retorted Jeffries. "John," he added, "wire Medicine Bend to send Farrell Kennedy here in the morning to see me."

"What's the reason that fellow sticks so close to Medicine Bend?" demanded Jeffries, when Lefever joined him later in his office.

"Don't ask me," frowned Lefever perplexed. "Don't ask me. Henry is odd in some ways. You can't tell what's going on inside that fellow's head by looking at the outside of it." Jeffries grunted coldly at this bit of wisdom. "I'll tell you what I should think—if I had to think: Henry de Spain has never found out rightly who was responsible for the death of his father. He expects to do it, sometime; and he thinks sometime he's going to find out right there in Medicine Bend."

While they were talking the train was pulling out for Medicine Bend with de Spain on board.

It was a tedious ride, and de Spain was much too engaged with his thoughts to sleep. The Morgans were in his head, and he could not be rid of them. He recalled having been told that long ago some of these same Morgans lived on the Peace River above his father's ranch. Every story he had ever heard of their wild lives, for they were men sudden in quarrel and reckless of sequel, came back to his mind. He wondered what sort of a young girl this could be who lived among them—who could live among them—and be what she seemed at a glance to be—a fawn among mountain wolves.

It was late when he reached Medicine Bend, and raining—a dismal kind of a night. Instead of going to his room, just across the street from the station, he went up-stairs and sat down with the train-despatchers. After an hour of indecision, marked by alternative fits of making up and unmaking his mind, he went, instead of going to bed, into the telegraph-room, where black-haired Dick Grady sat at a key.

"How about the fight tonight at Sleepy Cat?" Grady asked at once.

"What fight?" demanded de Spain perfunctorily.

"The Calabasas gang got to going again up there tonight. They say one of the Morgans was in it. Some town, that Sleepy Cat, eh, Henry?"

"What Morgan was in it?"

"Gale Morgan. A lot of stuff came in on it an hour ago. Was there anything started when you left?"

"I didn't hear of anything," responded de Spain. But his indifference to the subject was marked.

"What's the matter?" demanded the operator. "Aren't you well tonight?"

"Perfectly."

"Sleepy?"

De Spain roused himself. "Dick have you got a Sleepy Cat wire open?"

"What do you want?"

"Tell Jeffries I'll take that Thief River stage job."

LATE BULLETINS

Marketing Grain at Country Points.—Bulletin No. 558, issued by the Department of Agriculture, Washington, D. C. This bulletin discusses methods of purchase, methods of sale, price paid to producer, storing grain for farmers, farm storage, cost of operating a country elevator, hazards of the business, farmers' co-operative associations, etc.

Harvesting, Packing and Marketing The Apple Crop.—Put out by the Department of Agricultural Extension, State College, Pa., as Circular No. 50. Discusses picking and the equipment for the work, grading, packing laws, machinery for grading, packages, how to pack boxes and baskets, etc.

The Preservation of Foods.—Bulletin No. 298, prepared by Mrs. E. B. Binz and published by the Department of Agriculture, Harrisburg, Pa. Gives plain, practical directions for canning all the common fruits and vegetables.

The Value of Cover Crops.—Circular No. 85, issued by New Jersey Experiment Station, New Brunswick, N. J. This bulletin treats of the value of cover crops, and how and what to grow.

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COLUMBUS, Sept. 25.—Reports that German sympathizers have carried their depredations even to the wheat fields of Ohio were made today to the Ohio defense council by T. Alfred Fleming, state fire marshal.

Fleming showed the defense council reports by his d… in a northwestern Ohio county where pro-German … been manifested before, revealing that alleged … the morning of September 17 set fire to two … them adjoining a barn filled with gr… other within 100 feet of … stack.

The Above Was Clipped from the Cleveland News, Sept. 25th, 1917

As a result, T. Alfred Fleming, state fire marshall, issued an appeal to all handlers of grain, in part, as follows: "This war may be won by food amunition. The blazing torch is the implement of the scheming traitor. Every repository for food-stuffs in Ohio—every barn, every granary, every field in which grain is stacked—must be guarded."

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Live Stock

RESULTS OF A BOYS' PIG CONTEST

Figures on Gain and Cost

The end of the Newtown, Pa., pig feeding contest was celebrated September 4, at the home of John D. Roberts, at the occasion of the meeting of the Wrightstown Farmers' Club. At 3 o'clock the boys began unloading their pigs from wagons, from automobiles and from auto trucks. As each pig was taken off the wagon it was placed upon scales and weighed. These weights were all recorded and kept separate. After the sixteen pigs had been placed in the pens provided for them they were judged.

Someone suggested that an auction sale of the pigs be made after they were judged and weighed. Nine of the pigs were sold at an average rate of 18½ cents per pound, live weight. The auction sale was one of the most interesting features of the program. The highest price paid for any one pig was $45. Seven of the club members wanted to keep their pigs for breeding purposes and for that reason they were not offered for sale.

The average weight at the finish was 184 pounds, the highest being 243 pounds. This pig belonged to Ernest McGary. The average total gain of the sixteen pigs was 152.5 pounds, the highest total gain being made also by Ernest McGary. The average total cost of feeds was $12.34. The average cost per pound gain of feed was a little over 8 cents. Feed only was considered. An average price for feeds for the entire summer was obtained so that uniform prices could be figured when totalling up the cost of production for each of the members.

William Hecker won the first prize, a purebred pig donated by Frank M. Twining. Ernest McGary won the second, a purebred pig offered by E. N. Brown. The prizes given were three purebred pigs, 600 pounds of tankage and $16 in cash. Each member received some kind of a prize.

The table shows the names of the contestants and all the statistics as to the pigs.

	Weight at finish	Total gain	Gain per day	Cost of feed	Cost per lb. gain.
	238.5	183.5	1.30	17.15	.094
Edwin Stackhouse	161	139.5	.98	13.14	.094
Charles Lownes	171.25	152.75	1.08	11.42	.075
Elsie Younggren	242	217	1.54	16.50	.076
Ernest McGary	225.50	189	1.34	11.33	.060
William L. Schofield	127.75	111.25	.78	9.46	.085
Elick Zogorski	207.25	169.75	1.20	12.05	.071
William W. Betts	222.5	181	1.28	20.31	.112
Stanley Janney	159.5	133.5	.94	15.33	.115
Watson Briggs	212.75	182.75	1.29	16.48	.091
Lou Blanchard	203.5	178.5	1.27	9.23	.052
George E. Harris	228.75	179.75	1.28	10.37	.058
William Hecker	103.25	77.75	.55	4.19	.054
Raymond C. Kirk	121.5	94.5	.67	5.02	.053
Leslie E. Kirk	112.25	87.25	.62	3.43	.040
Amos K. Kirk	206.75	179.25	1.28	22.15	.123
Archie Kirkpatrick					
	5044.1	2456.6		197.56	
Average	184	152.5		12.34	8.04

BALANCED RATIONS AND FORAGE CONSERVE FEEDS

In these days of food shortage it is important that meat be produced with a minimum of feed suitable for human consumption. This can be done by using more forage and by feeding properly balanced rations. Cattle will make good gains on silage with linseed oil meal or cottonseed meal. At the Missouri College of Agriculture steers fed a daily ration consisting of 49.4 pounds of silage, 4.35 pounds linseed oil meal, and 5.8 pounds of alfalfa hay, gained 2.44 pounds per head per day, brought $12 a hundred and returned a profit of $15.54 a head.

A lot of similar steers fed 17.11 pounds shelled corn, 2.85 pounds of linseed oil meal, 30 pounds of silage and 3.78 pounds alfalfa hay, gained 3.26 pounds per head per day, brought $12.75 a hundred and returned a profit of $10.08 a head. Adding shelled corn increased the rate of gain and selling price, but cut the profit per head $5.46. Hogs fed on forage crops at the Missouri College required 3.18 pounds of grain for each pound of pork. Those fed in a dry lot required 5.11 pounds of grain for the same gain. The hogs on forage returned $2.20 a bushel for corn, and those in the dry lot returned $1.32 a bushel. These figures are based on a sale price of $12 a hundred for the pork in both cases.

Much forage which could be profitably utilized by lambs goes to waste on a number of farms. A good growth of cowpeas or soybeans in corn will pasture 3 or 4 lambs per acre from September 15 to November 1, and this feed will make about 15 pounds gain on each lamb.

Hogs fed tankage with corn in a test at the Missouri College returned a profit of $13.05, while those fed only corn returned only $5.75.

CULL POTATOES AS HOG FEED

When grain feeds are high, as now, and potatoes are cheap and plentiful, feeding hogs on cull potatoes and any surplus of the poorer grades which might be available is profitable. It is estimated that 4½ bushels of potatoes equal 1 bushel of corn in producing weight gains on hogs. The feeding of marketable potatoes is therefore unprofitable unless corn is worth 4½ times as much as potatoes. But as above stated, there are culls and other unmarketable potatoes which might be fed to hogs for several reasons: A waste is utilized and more valuable feed is saved; transportation charges on a poor product are saved; and the potatoes marketed bring a higher price than they would if the small ones were included.

Food Value of Potatoes

Potatoes resemble corn in composition, and this is especially true of sweet potatoes. Both corn and potatoes are poor in protein and rich in carbohydrates, thus they make fat rather than bone and muscle. The potatoes should be boiled or steamed until they form a mealy mash, which should be mixed with some other feed such as corn meal, shorts or bran. Only enough water should be added in the cooking to prevent burning and to make a thick mash. While some potatoes may be fed raw to add succulence to the ration, they should be given only at intervals and in small quantities. Too many are likely to cause scours.

A potato ration should be supplemented with feeds rich in nitrogen, such as old-process linseed-oil meal or fish meal. Where sweet potatoes are plentiful and cheap a combination with gluten meal and skim milk makes a good ration.

Effects of Feeding

In one case of experimental feeding shoats made one pound of gain for each 3.13 pounds of grain when they were allowed to do their own harvesting of raw sweet potatoes. Sweet potatoes are said to be the best root crop for pigs for fall and winter grazing in the cut-over pine lands of the south. The meat of potato-fed hogs is equal in quality to pork from a grain ration, but the latter is likely to carry a greater finish. After cooling there is no appreciable difference in firmness of the carcass between a potato-fed and a grain-fed animal.

KEEP THE LIVESTOCK

The high prices recently paid for grain have induced many farmers to sell their breeding stock and thousands of hogs, cattle and laying hens have been sold for meat. If a farmer expects to leave the farm it is alright for him to sell all of his stock, but if he expects to stay there and must stay there and likes livestock, he will forever regret the day that he marketed his animals. To me, a farm is not interesting unless it can boast of a fair amount of livestock. The cattle and sheep grazing in the field, the friendly grunt of the pigs and the crow of the rooster all add to the enjoyment of life on the farm. They are a sort of companionship that keeps a farmer from being lonesome.

Of course farming is a business and the pleasure of admiring livestock may not be considered a "dollars and cents" argument for keeping them on the farm. However, here is the biggest and best argument for keeping the stock. If animals are high it usually means that their progeny will also be high, and when the parent stock is marketed the chances for income from the offspring are forever destroyed. The fertility of a farm is of known value to the farmer and this fertility can largely be maintained or increased by the livestock on the farm. Without the fertility the production of crops will be hindered and the yields will soon be small when prices for grain are still high.

A farmer may reason that the herds and flocks can be replaced at any time, but this may not be true. It takes time to build up fine flocks and herds and it costs money. The farmer who sells all his breeding stock now may find that he can invest his money in nothing that will pay better and he may make poor investments and have a hard time to obtain the money to restock his farm with good breeders.

The warring nations of Europe are reported to be sadly in need of fats and their herds are being depleted. This certainly means a good demand for livestock for several years after the war. Viewed from every angle it certainly seems that we should keep our livestock even if the cash in the bank does look better than the job of caring for the stock on the cold days of winter. A farm in the winter, without livestock, is a dreary place to live. Give a man that likes livestock enough of them to manage and he cannot help but like farming.—K.

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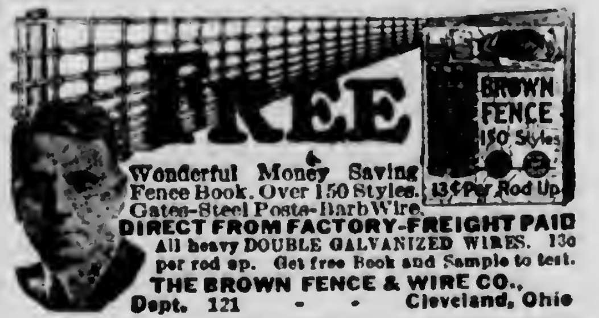

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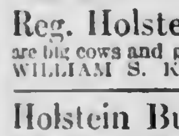

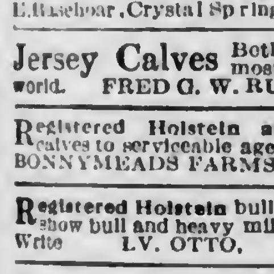

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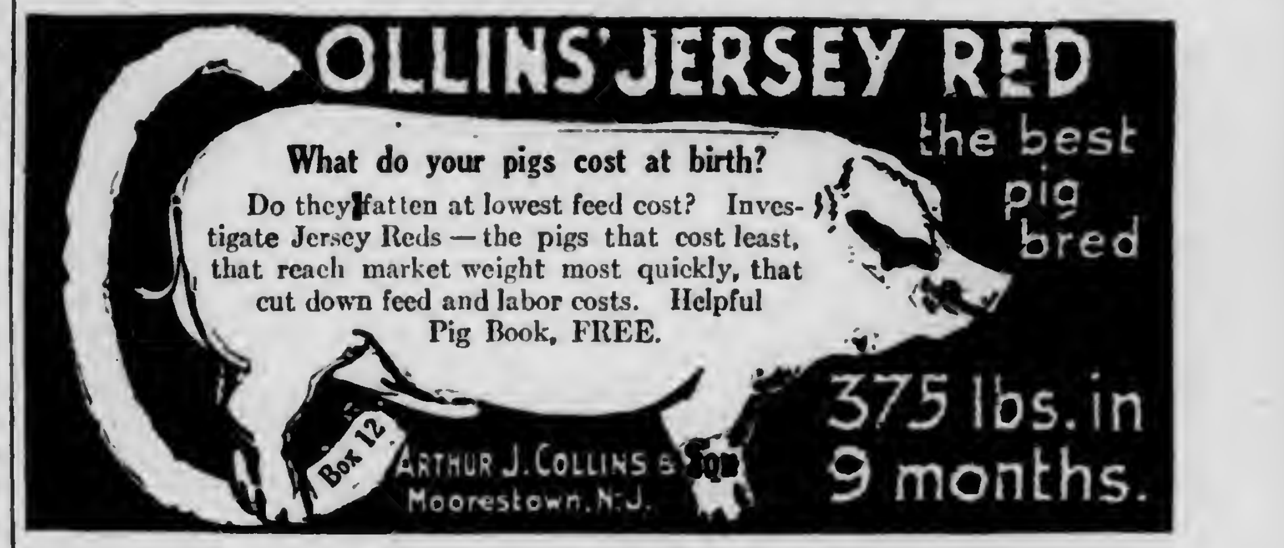

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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Ringworm.—I have one colt and two cows affected with ringworm. The simple home remedies which I have applied fail to effect a cure and I would like to know what to do. J. M., Coopers Plains, N. Y.—First of all, you had better clip the hair off. Then wash sore parts with soap and water and paint all diseased parts with tincture iodine. In horses, an application or two of mercurial ointment will very often effect a cure. The treatment of ringworm should be kept up until a cure is effected.

Abscess on Withers—Bursal Swelling—Eczema.—I have a horse, about seven years old, that has soft bunch on withers well forward. It is gradually increasing in size. This same horse has a puffy swelling on fore part of each hind fetlock joint, but does not produce lameness. He also has an itchy condition of the skin. A. W., Rogersford, Pa.—You had better paint bunch on withers, also swelling on fetlock joint, with tincture iodine every day or two. When the bunch on withers softens, it should be opened to allow proper drainage. Then swab out inner wall of abscess with tincture iodine, three times a week. Apply one part coal tar disinfectant and 35 parts water to itchy parts of skin, once a day.

Bitter Milk.—I have been a reader of Pennsylvania Farmer for several years and always look over veterinary column, but do not call to mind reading an answer to the following question. My seven-year-old cow will come fresh Feb. 1, 1918. When her milk is boiled it becomes bitter. Last year she gave milk of same quality for nearly four months before she came fresh. So far as I can tell she is healthy and is giving a nice lot of milk. I would like to know what can be done to prevent her giving this kind of milk. C. S. R., Burlington, N. J.—As you know, milk absorbs odors from the air very easily and for this reason should never be left standing in close, poorly-ventilated stables where it will gather the odors of feeds, manure, or what is often termed a cowy-taste. If sanitary conditions prevail in the barn and the stable is well ventilated and the cows properly and regularly cleaned, the milk is not likely to become tainted. The odors of certain feeds, fed to the cow in the stable at milking time, are often absorbed by the milk. Milk that has been smothered by putting a tight cover on the can before the animal heat has left it, will make an inferior grade of butter and can be detected by a rancid smell. I suggest a change of feed and perhaps water, also wash or groom your cow and use the utmost cleanliness when milking; besides, the milking utensils should be thoroly cleaned, boiled and aired. The milk should be promptly cooled when milked and kept in a clean, well-ventilated milk house. Give cow a teaspoonful of hyposulphite of soda at a dose in feed or drinking water, two or three times a day.

Obstructed Breathing—Indigestion.—I have a cow that makes considerable noise when breathing. The throat seems to be the seat of her ailment, whatever it is. She has lost some flesh, but gives same flow of milk. She is in calf, due to freshen latter part of December. E. J. M., Stonehsburg, Pa.—Apply equal parts tincture iodine and camphorated oil to throat, once daily. Give her one dram fluid extract nux vomica, one dram fluid extract lobelia at a dose in feed or drinking water, three times a day. Her stable should be kept clean and be well supplied with fresh air.

Deep Milkers.—I have heifer due to freshen for first time next December. For the past two months we have been milking her, once a day. She gives three quarts daily. I would like to know whether we should make an effort to dry her, or continue milking her. G. C. L., Liverpool, Pa.—If I owned her. I should continue milking her once daily, not forgetting the importance of supplying her with plenty of nutritious food. She will likely prove to be a profitable dairy cow.

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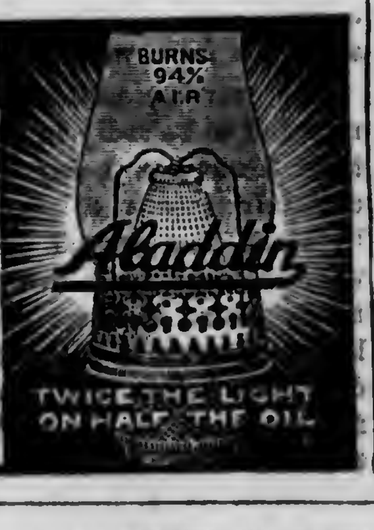

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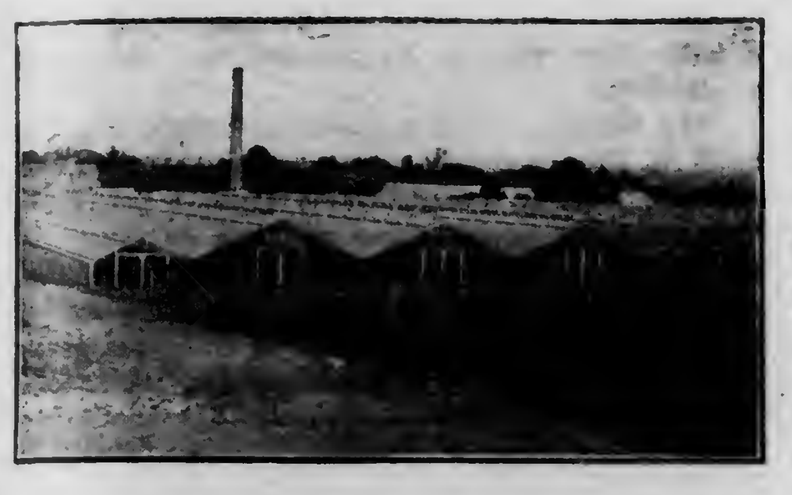
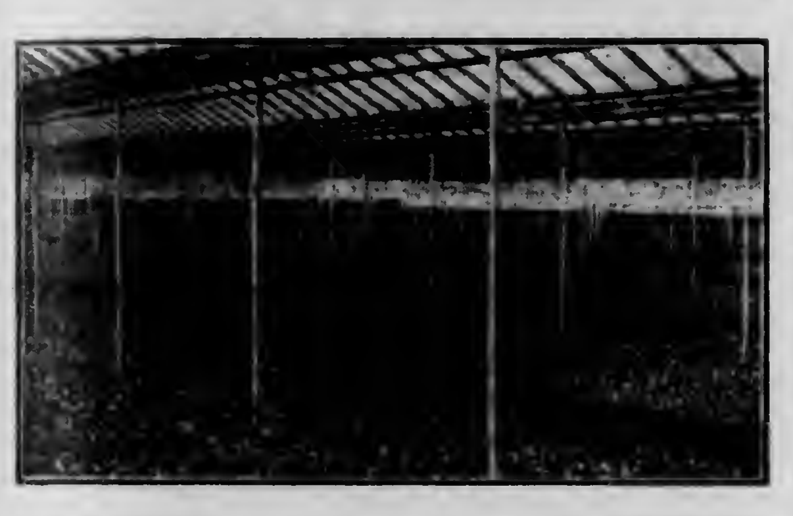
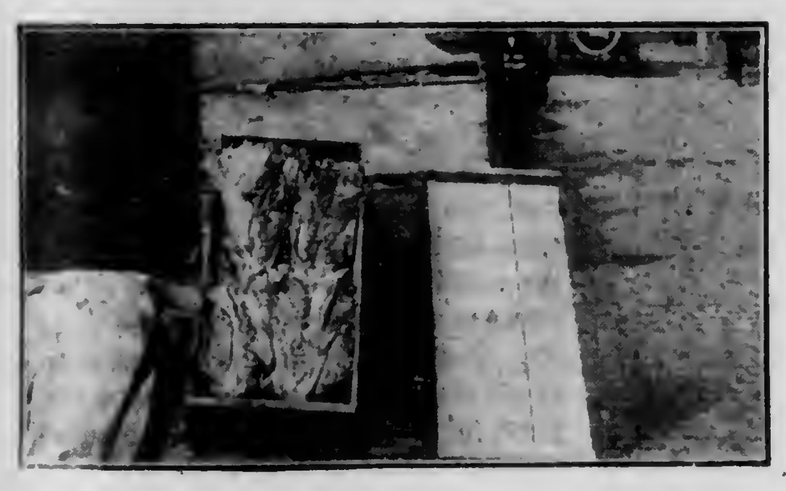
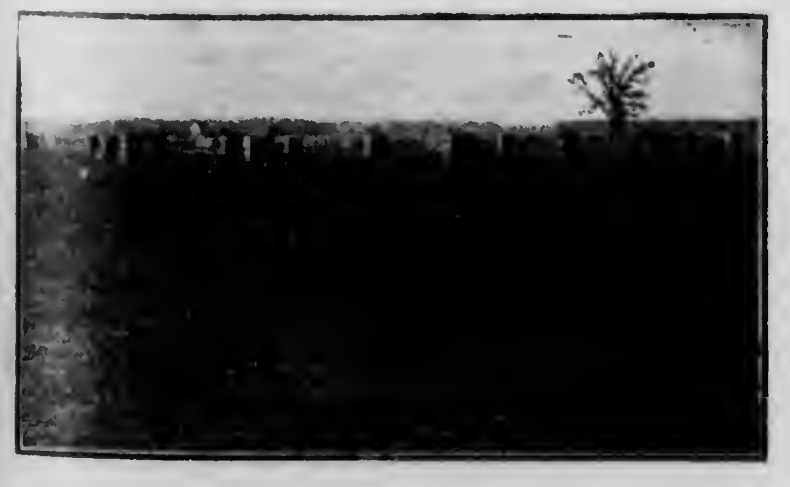
Market Gardening Near The Great Lakes

Observations of a New Jersey Vegetable Grower on Western Methods









During the last week of September, 1916, it was my good fortune to attend the annual convention of the Vegetable Growers' Association of America, held last year at Chicago. The meeting itself was very interesting, however, the observation trips thru the nearby Chicago market gardens, and the trip around the Great Lakes thru the best vegetable growing sections was the most pleasant part of it all. Having always been involved in vegetable production in New Jersey, it was an interesting study to observe and explain to myself the essential differences in the methods used.

The first great thing to attract attention was a great series of greenhouses actually covering acres of ground without even a partition between the houses. (Fig. 1 upper left hand.) One side of each of two greenhouses drained into one iron gutter. The heating pipes for the houses are directly under the gutter so that they do not absorb the sunshine nor prevent horse cultivation in the greenhouses. The supporting posts are bedded in cement. The illustration (Fig. 2 below Fig. 1) shows a "field" of leaf lettuce growing near Chicago, September 29, 1916. Head lettuce is usually grown along the Atlantic seacoast but the growers around the Great Lakes claim that they cannot produce a satisfactory head lettuce. The Grand Rapids leaf lettuce is sold by the pound and it is grown close together and in a very short time because the houses are kept warm. Head lettuce must grow slowly and in a cooler temperature.

At the Chicago farmers' market, the growers seemed to have a determination to pack everything in very small wooden boxes. Just think of a new box and lid being furnished for every eight heads of that small leaf lettuce as shown in Figure 3. Head lettuce in the East goes to market in barrels, hampers and large lettuce crates, all of which hold at least two dozen of the largest heads. When asked why they packed small quantities in such an expensive box, the grower said the buyers demand it that way and it pays the grower to please the dealer.

On the first day after the convention, September 30, Racine, Wis., was visited to see the extensive fields of cabbage, sugar beets and onions along the western shore of Lake Michigan. The illustration Figure 4 shows a 115-acre onion field with the heavy yield of red onions piled up in bushel slat crates so that they will air out well before being stacked away in the enormous store houses in that section. One man owned the entire acreage and had no trouble getting the weeds pulled because he contracted with many different families to plant, cultivate and harvest a certain acreage on shares.

(Concluded on page 11.)

The War and the Farmer

Exemption of Farm Labor

Never before has so great a responsibility rested upon the farmer as today. Unparalled situations face the world, and just what policies should be pursued in order that there may be a minimum of confusion and a maximum of efficiency is a puzzling question.

The farmer faced with calmness the possibility of war. He had been assured that he was a necessary factor in national prosperity and that his efforts—his best efforts—would be just as patriotic a fulfillment of his national obligation as tho he fought in the trenches. At least, it seemed to be well understood that we, being thoroly familiar with England's mistake in this particular, would take care to profit by her error. For this reason, farm labor, it was understood, would be kept at its work and would receive full support from the Government.

It was upon this basis that the Conscription Law was presented to the people with its selective draft feature which was acknowledged at the time to be evidence of the accuracy of our understanding of the problems of the hour. The Conscription Law is now in force. The cumbersome wheels of military mobilization have been put into motion, and our people are more alive than ever to the necessity for great agricultural achievement. In fact, everything has been done more or less according to preconceived ideas except the carrying out of the selective feature of the draft in its bearing upon the farmer. Keeping in mind the selective idea as applied to the best interests of the nation, it is difficult to understand the reasoning which will put the farmer's son on the firing line.

There are many farmers today who face a serious situation because of this mistaken war policy. Men who have by reason of long and faithful farm service trained their sons in farm management so that their later years might be rewarded by a well-earned retirement, confident in the ability of those sons to continue with the farm in the light of modern science, have now been forced to yield these sons to the national army. Giving up their sons is to be expected, but when this also means giving up the farm, the result is serious. Many farmers have made their farms successful by careful management and hard work with just land enough to be efficiently operated with the help of their sons. Without their sons, the labor factor will be reduced to a point below efficiency and to replace them with a hired man is difficult, since the hired man has also been drafted. In other words, it would appear that our farms are to be sacrificed to our army—just the thing which we aimed to avoid in the so-called selective draft.

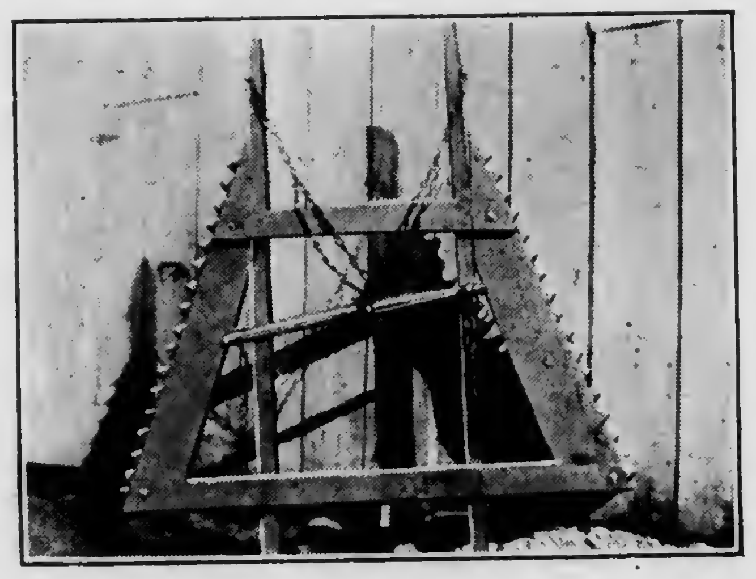
The idea seems to be current that some effort at military selection will be made in the training camps which would correct this, and that those men who have had scientific or technical training of a nature valuable to the Government will be detailed to work in accordance with their experiences. It seems to be difficult to determine the accuracy of this report, and, regardless of its accuracy, the fact remains that the farmer has had no evidence of any such selection and in some sections farmers have actually sold their farms, or abandoned them, because they were either called to the service or thought that they might be. Even tho a farmer were drafted into the army and later detailed to agricultural work, his own particular farm would suffer by reason of such an arrangement, and he could hardly be expected to be of such value to agriculture as a whole as he would have been had he been allowed to remain on his own farm where conditions are familiar to him.

There can be little sympathy with the man who complains of personal hardship at the present time; or with one whose motives are purely selfish and who fails to realize the patriotic duty which rests upon every American in the present crisis. If agriculture were not an industry upon which the very life of the nation depends, and fundamental to the success of both ourselves and our allies, one might refuse to sympathize with the farmer's claim in this particular. But it has been well understood from the war experience of our allies and is the mature judgment of our own experts that our armies will be successful only to the extent that our agriculture prospers. If we limit the one, we restrict the other; to rob one in order that the other might be strengthened is to weaken the whole.

The only criticism which should deserve attention at the present time is constructive criticism—certainly not destructive. But if by kindly criticism of this war measure we may come upon some means whereby a part of the difficulty may be overcome, it will then justify itself in the eyes of the majority of the people. Some part of the injury has already been done so that mere complaint is futile. It is, however, very necessary that we weigh the situation so that we may determine upon a rational course of procedure which will meet the conditions which confront the farmer and be in strict accord with the prosecution of the war on the part of Government.
—L. Wayne Arny.

Handy Stock Cutter

Every one who has ever worked on the farm knows how unhandy it is to husk the corn with the stubble standing. We have illustrated here a very cheap and efficient cutter that will handle the stalks either green or dry. The runners are made of 2x4-inch pieces, 6 feet long, placed 2½ inches apart. Cross pieces are 2x4 inches by 6 feet and 2x4 inches by 4 feet long. The wings are 1½x12 inches. An old mower knife is bolted to the under side of each wing. This rig is easily constructed, is cheap and efficient. One horse can easily haul the cutter and driver.—R. S. Good., York Co., Pa.



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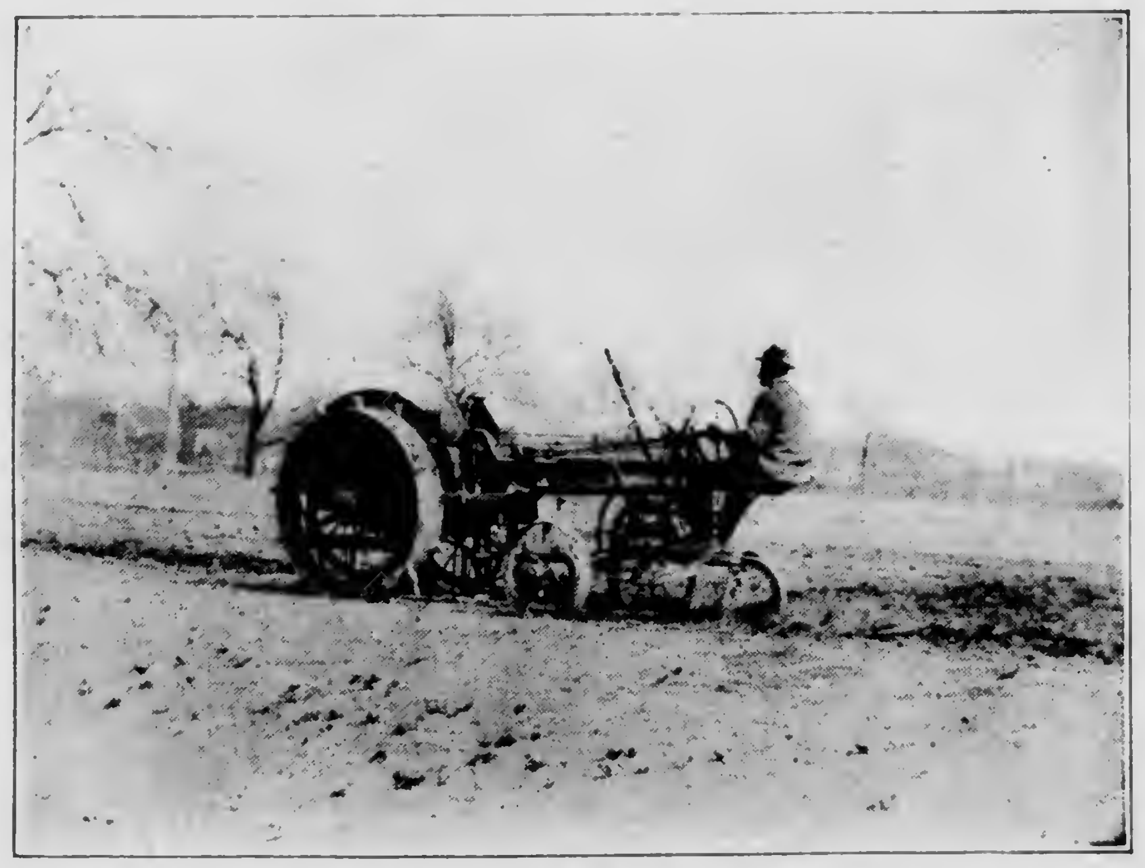

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The Grasshopper Menace

Without wishing to seem radical the indications are that the grasshopper may eventually become a more serious pest than the potato beetle, the tent caterpillar or any of our common destructive insects if one may judge by the large numbers present in this and neighboring counties the past summer and by the serious outbreaks which have occurred in other states. The fact that one druggist in Colorado sold 6,550 pounds of Paris green and 38 tons of bran to make poison mixtures to exterminate them shows the seriousness of the hoppers and the organized effort needed to get rid of them.

The insects were present in large numbers in the southeastern counties of Pennsylvania. On my own farm they stripped many timothy plants of their leaves; ate the tender parts of the soybean foliage, leaving only the ribs, and cut off the silk from the growing ears of corn, thereby preventing proper fertilization. Several years ago, I saw them even more plentiful when several fields of oats were completely stripped of the grain so that nothing was left to harvest except the bare stalks of straw. After they had destroyed these crops they moved into an adjoining potato field and several corn fields where they also destroyed the crops by eating the leaves. This year certain districts in Berks County report the loss of thousands of dollars because of the ravages of this pest.

There are three general methods which can be used to destroy the grasshoppers. (1) They lay their eggs in soft, moist soil, so if all the land suitable for their breeding is cultivated they do not have a chance to reproduce, but this method is not often practical because there is always some waste land which can't be farmed. (2) By a hopperdozer. This is a galvanized trough which is dragged over the fields and as the grass hoppers fall in, they are either killed or drowned. This method is generally impractical because it requires a great deal of labor and can't be used on fields on which there are growing crops or brush, or which are uneven. (3) Poisoned bait. This plan is the cheapest and the most satisfactory.

The formula found to be most satisfactory by the U. S. Bureau of Entomology after extensive experiments was: 25 pounds wheat bran: 1 pound of Paris green; 2 quarts cheap molasses or syrup: 6 lemons. The mixture is scattered by hand from the back of a buggy driven across the fields. They found the cost of the bait to be about 25 cents per acre.
—W. H. Rothenberger, Montgomery Co., Pa.

When Rainy Days Come

The rainy day can be made valuable on the farm. The odd jobs which must always be neglected on busy days in the field can then be finished. The harness which needs repairs can be neatly patched and the hole in the barn floor can be mended before some injury to the stock results.

The poultry house is often in need of feed hoppers which will be valuable in the improvement of the management of the flock. New nests can be made in a short time and if the farmer is interested in trap-nesting, bulletins may be studied on that subject and trap-nests made to assist in improving the egg records.

Many machines will need oiling. Tools that are ready for storage should be cleaned and then wiped with an oiled rag. At first all of the rust can be scrubbed off with kerosene, then rub the metal thoroly with the oiled rag to place a film of oil between the implement and the damp air. Tools are high and a few hours of careful attention may mean a few years of additional service; possibly the tool which will soon break down when there is little money for additional equipment and it can be saved now at little expense outside of the time on a rainy day.

The wife can often use the husband's time to good advantage when it rains. The wood shed and the cellar are frequently in need of cleaning. This is especially necessary in the fall before the food supply is ready for storage in the cellar. Clean up the cellar while it rains and then open it up as much as possible for drying and ventilation on the first day that the sun is warm and bright.

The attic is often a fire risk due to the large amount of dust and dirt which accumulates around the chimneys. Storage room is valuable on the farm and it should not be cluttered up with useless truck which will never be of any value. Of course it is not difficult to find work to do on a farm. If the farmer is nearly tired out from hard days in the harvest field the rainy day may be the salvation of his health. It can be used for just good, wholesome rest. The farmer with no rainy day jobs should not let his conscience worry him if he takes the rainy day for his own and does nothing but rest. Rest periods pay dividends to the weary farmers.

The Food Situation in France---I

By FRED B. PITNEY

Editors' Note.—This is the first of a series of articles by Fred B. Pitney, a noted foreign correspondent, on the food situation in France. Mr. Pitney not only had at his disposition the official figures of the French Government on the food supply of France, but he has lived in France during war and speaks from personal experience and intimate first-hand knowledge of the conditions there.

Food as it Affects the Individual in France

As I have kept house in Paris during the war, I can speak from experience on the food situation in France as it affects the individual. And let me remark in passing that one learns a great deal, when keeping house, of which he gets no inkling when living in a hotel and eating in restaurants. One can always go to a restaurant, order a meal and get it. I have heard many visiting Americans, who lived in France in that way, pooh-pooh the idea that there was a food shortage in the country. If those same persons had had to search the markets before they had their meals, they would have gained a very different idea of the food situation.

Sugar offers an excellent concrete example. In a restaurant one is fairly certain of sugar for one's coffee. Three lumps to a person is the rule. Formerly, the sugar was put on the table in a bowl and one helped one's self. Now, the ration is served to each person separately.

But if one is keeping house, he must have a "sugar card", permitting him to buy a stipulated amount of sugar in a month. The allowance is one and one-half pounds of sugar a month, if three meals a day are taken at home, one pound if two meals are taken at home and one-half pound if only one meal is taken at home. This means for the person who takes three meals a day at home 18 pounds of sugar a year. The annual sugar consumption per person in America is 85 pounds.

One would not be likely to find this out, if he were living in restaurants in France, but finds it out very soon, if keeping house.

It is soon learned, also, that the "sugar card" does not mean that one can demand a pound and a half of sugar a month, but only that one is permitted to buy that much, provided a dealer can be found who has it to sell. A dealer who has sugar will not sell it to anyone who comes in. He sells only to his own regular customers.

We paid last winter in Paris 11 cents apiece for eggs and $2 a pound for butter and there was frequently neither butter nor eggs nor milk to be had. Private families were allowed to buy one-eighth of a pound of flour at a time. The grocers could not sell flour, only the bakers. The flour mills could not choose their own customers, nor could the bakers and restaurants choose the mill from which they would buy. Lists were made out, telling each miller to whom he could sell. This was in order that one section should not be able to eat up the stock of flour belonging to another section, or one baker deprive the customers of another, when all were short.

Wheat Situation in France

Let me give you the official figures on the wheat situation in France so that there can be no question.

It is estimated that there will be a deficit of approximately 5,000,000 tons of wheat in France over the period from September 1, 1917, to September 1, 1918.

The normal annual consumption of wheat in France is from 9,200,000 tons to 9,400,000 tons. France has always been an importer of wheat, her average production for several years before the war being 9,000,000 tons, or slightly less than the consumption. Since the beginning of the war her production has fallen off radically. In 1914 it was 7,700,000 tons, in 1915 6,065,000 tons and in 1916 5,840,000 tons, while for this year the crop is estimated at 4,000,000 tons with a possibility of rising to 4,500,000 tons, leaving for the period from September, 1917, to September, 1918, a deficit of nearly 5,000,000 tons, which must be made up by imports.

Wheat Must Come From America

From where can those imports come except from America? Italy by reason of her position in the Mediterranean takes the first toll from the wheat of the Far East, while England, of whom the Far Eastern wheat producing countries are colonies, takes the remainder. France can get a little from South Africa. Argentina has stopped the exportation of wheat. This country is the only resource left to France.

I have spoken of the scarcity of flour resulting from the shortage in wheat. Let us try to see what this means to France. In the first place, it must be realized that there bread is the staple article of food. It is the base of all meals, especially among the working population. Breakfast consists of coffee or chocolate and bread. Luncheon is bread, soup, coffee and often, tho not always, some meat or fish and a vegetable. The big dish is bread. Bread is again the base of dinner or supper. Bread and cheese will make an entire meal for a French peasant, with a glass of wine to wash it down.

By the Way

By

Father Penn

For a number of years prior to 1916 there had been growing a better understanding and a more intelligent sympathy between farmers and city consumers. Both sides were co-operating to find a better and cheaper method of distribution. The farmer realized that city consumers were compelled to pay too much for food, while the city consumer was beginning to realize that the farmer was not being paid enough. Things looked favorable for a solution, or for an improvement at least. But during the past few months, or since the disrupting influence of war spread over the country, not only have all parties ceased to make progress in mutual understanding and better business methods, but there is prevalent a spirit of fault-finding and criticism that is positively harmful.

Farm Tractor Pulling 24-inch Breaker Plow, Cutting Lateral Ditches 24 Inches wide and 16 Inches Deep.

Much of this misconception is due to the publication by trade papers and city dailies of comments and unfounded stories which should not be printed because they are untruthful, or only half true. Half-truths when unaccompanied by a full explanation are sure to be misunderstood. Since the majority of people read these papers and form opinions accordingly, it is readily seen why many people are now making uncomplimentary remarks about the farmer. For instance, articles are printed telling how, but not why, farmers are asking exemption from conscription; discussing the failure of farmers to subscribe to the Liberty Loan, but not telling why; telling what it cost to produce grain ten years ago and comparing that with the market price today. All this is widening a breach which was rapidly closing.

A large business firm which also publishes a weekly report on crop conditions, the information being gathered by its army of traveling salesmen, has the following in a recent summary:

"Disgusting reports continue to come of food stuffs going to waste in orchard and field, and this when the city man needs them. The feeding of wheat to farm animals continues!"

"The milk situation is growing acute in Chicago territory and is not only affecting the innocent baby in the cities, but is giving a black eye to the farmer and arraying classes of men against each other to the final disadvantage of all. Moreover, it is fast bringing about conditions that will affect agriculture adversely for years to come."

It also refers to some statistics gathered by John Fields, and says: "The total value of the corn crop in Oklahoma from 1909 to 1916 was $158,000,000 less than the cost of production!"

Why not tell all the truth relative to food stuffs which go to waste? It would be only honest to state in connection that the prices received by the farmer are frequently not sufficient to pay the excessive wages demanded in order to harvest and market it. The question of farm help is becoming still more critical, since many farm boys are being conscripted into the army. The business of farming is not run as a charity business, neither do I believe that the city consumer wishes to pose as a charity subject. I doubt very much whether wheat to any extent is being fed to stock except to chickens. But even so, since the market price of wheat is about the same as the price of corn, and wheat has a greater feeding value than corn, and since farming is a business proposition, what's wrong with feeding wheat if a farmer wants to, especially if it is sprouted, or if the expense of exchanging is great, as would be the case in many instances?

The situation of the dairymen in the Chicago territory has been "acute" for years. Year after year these farmers produced and sold their milk without making a profit and many of them at a loss. Now, when they have assumed a position in which they can demand a fair price, they are decried as being heartless and extortionate. Why should the farmer receive a "black eye" simply for demanding what is justly due him? Why should the public array itself against him for seeking to make his business profitable? If fair prices must bring about conditions which "will affect agriculture adversely for years", I wonder who will suffer first and most.

The last quoted sentence concerning the Oklahoma corn crop tells the story found in many agricultural lines and explains why, at last, farmers are demanding higher prices. Oklahoma's $158,000,000 loss in eight years on corn is but typical of agricultural prosperity in a great many lines and in a great many places. Seemingly, the time has come when farmers may enforce justice, and they should not be deterred by threats of boycott, or by the charges of those who would play the "baby act". There should not be two sides working at cross purposes in this great problem of food production. Each must realize a mutual dependence, and an equal obligation to be just and fair to the other. No good can possibly come from unjust criticism or unfair dealing. This applies to both parties.

OVERSEAS ACRE CONTRIBUTION

A fund started by farmers for farmers is the Overseas Acre Contribution. It offers opportunity for each American farmer to contribute the value of the product of an acre in cash to a fund for the relief of French farmers. The need of the farmers in that devastated country is known. The cause requires but to be stated to be appreciated at its full value as a clever system of giving tangible expression to the sympathy of farmers of this country for their fellows in France. This plan is endorsed by the farm press generally. It is a waste of words to urge it. When you market your grain, set aside the proceeds of an average acre and forward the check representing it to Treasurer Albert C. Middleton, National Headquarters, Overseas Acre Fund, 219 Market Street, Philadelphia, Pa. Notwithstanding prior contributions, help this much more.

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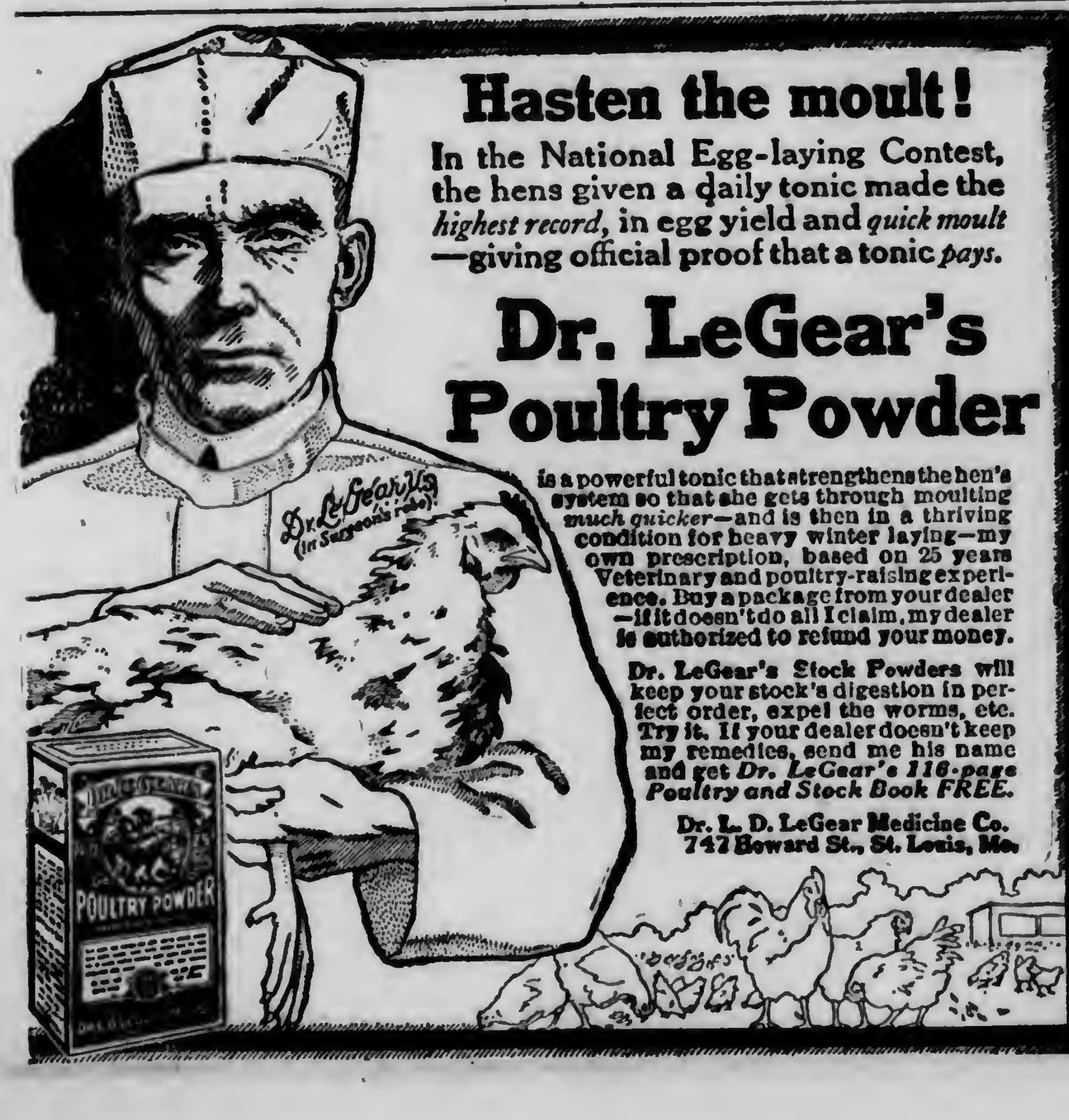

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Purebred Poultry vs. Mongrels

Purebreds Look Better and Pay Better

In the past, poultry of known breeding has been grown chiefly by the professional poultryman and the fancier and only by a rather small percentage of the general farms of the country. However, with the growing tendency on the part of farmers to adopt better cattle and other live stock, the fowl of good blood lines is coming in for a share of attention and I believe the day is not far distant when fowls of known breeding will come into their own on the general farm just as the pig and cow of good blood lines is gaining in favor today.

There has been a tendency on the part of farm folks to look on the hen of known breeding as a show bird and a majority of farmers in speaking of such poultry refer to them as "fancy chickens". This is one of the main reasons why the hen of good breeding has made so little progress in proportion to what she would were her utility qualities known. It is because the general farm public looks on her as a show bird which they consider, and with some truth, as having little or no utility value. The reason for this point of view is that the farmer has met the hen of pure blood lines principally in the show room of his county fairs and he has rarely met the utility strains at work under farm conditions.

Where the farmer has made an effort to raise a given breed he has very often met with rather discouraging results. Usually it has been a case of buying from some breeder a setting of his best eggs at several dollars a setting, with the idea of breeding "fancy chickens". That setting of eggs held attention until the resultant chicks were perhaps grown, then they were thrown in with the rest of the mongrel flock or perhaps the males of the selected breed were mated into the mongrel flock and then, because no noticeable results were had, the breed was voted a failure and mongrels the best for the farm.

Then, too, where the farmer has met his favorite breed at home it has usually been on the farm of some fancier or poultry specialist where special housing and attention is given the fowls and he has come to the conclusion that such an environment is necessary and that general farm conditions would never do for the raising of good stock. This is a false idea, for the hen of good blood lines will live and thrive any place that the mongrel will and what is more she will make far better use of her feed than the mongrel.

As to the ability of good stock to forage over the farm and shift for themselves as most mongrels have to, I can say from the observance of actual cases that they are every bit as capable in this line as the mongrels, provided they have been hatched and reared on the farm under the particular conditions. Little results are likely to be had where mature fowls unused to farm life are purchased and put out on the farm to shift for themselves; they don't know how and are too old to learn—they must be brought up under the particular conditions, then the particular breed adopted will show every bit as much ability in foraging lines as does the mongrel.

There is one thing, however, that the farmer must remember: In rearing a given breed of fowls he cannot expect to have the fine-apearing, extraordinary birds of the show room unless he is willing to give the birds special attention and feeding, for such appearance is chiefly the result of special care and effort, and this is true of all show specimens of livestock. However, that does not mean that a good average stock cannot be raised under the same conditions that mongrels are kept. It does mean that extra fine show specimens are only obtained by special care and feeding.

The chief mistake that the farmer makes in starting with the chosen breed is purchasing at a good stiff price a setting or two of eggs from the breeder's best pens or show birds. The best plan for the farmer is to purchase from some good breeder one or two hundred eggs from his utility flock, costing from $6 to $10 a hundred according to the breed selected and the reputation of the breeder. The utility stock, while not containing the prize winners, is usually composed of hens of good average type and usually better layers than some of the pens of show specimens.

By purchasing such a number of utility eggs and at perhaps no greater cost than a couple settings of eggs from the best pens that farmer will, with reasonable results, have sufficient stock to be able to completely do away with the mongrels the first year. This is very necessary if the introduction of a breed of fowls is to be a success, for fowls of part blood are of no more value than mongrels.

In the matter of handling one or two hundred eggs I would advise the farmer to do the hatching in whatever manner he formerly did it. If with hens, then continue with hens, purchasing the eggs only as hens are had for setting; but if an incubator has been used with success in former years then that is the best way to hatch the purchased eggs.

When it comes to comparing good stock with the mongrel in the food market I can speak from my own experience. Having conducted for the past number of years a large commercial poultry farm on which nothing but certain breeds were raised, and having also during this time operated a market route thru the surrounding district for the purchase of poultry products, I feel rather well acquainted with the difference in the market price for good poultry stock and the average mongrel fowls of the farms. In truth, I can speak from actually seeing both kinds sold side by side.

There really is the greatest difference in the world between good stock and mongrels and that difference is best shown by the returns in the form of a difference of from five to, in many cases, ten cents a pound in favor of the fowls of good blood lines.

The reason fowls of known breeding are more desirable on the market is because of their uniform size and color of feather when sold alive and because of their uniform color of skin and flesh and the fact that they are usually in better condition in point of plumpness. The reason for this is because they have been bred for those points, uniform color of flesh, feather and meat, and plumpness in form. Of course, plumpness is chiefly a matter of feeding and fowls of a given breed are just as likely to need fattening as mongrels. However, in our experience in fattening poultry we have found a very large percentage of mongrels that would never fatten under any condition. They were naturally scrawny, bony birds and could never be anything else because they did not have the breeding behind them.

The difference in results in fattening mongrels and fowls of known breeding is about the same as the difference in results between fattening a blooded hog and a razor-back—the one makes a 100 percent use of the feed while the other only makes a 50 percent use of the available nutrition.

And speaking of results, the same thing holds good in egg production. The average mongrel can't produce the number of eggs the hen of breeding can on the same feed because she has not the breeding for egg production behind her. Like the razor-back she hasn't the powers of assimilation.

Then again in marketing the eggs we have uniformity of color, shape and size in the product of good stock, whereas in the mongrels we have all colors, shapes and sizes. As an illustration we have large brown eggs from the Rock, medium size lightly speckled eggs from the Wyandotte, large white eggs from the Leghorn. This uniformity of product will always bring the grower several cents more a dozen in the market. Many times the difference in the price of the products sold will return the original cost of the stock during the first season of production.

As to the matter of which is the best breed for the farm I truly believe that is something for the individual to solve for himself. I believe in most cases that one of the general purpose breeds are best adapted to the needs of the farmer, as it should be the endeavor to have both meat and eggs, but where there is a particular demand for large white eggs it is frequently advisable to adopt one of the egg breeds. There is in reality no "best" breed, and the farmer who realizes this truth has learned something that will save him the trouble of constantly changing from one breed to another as many do in their effort to find a best breed. If a liking is had for one particular breed, then that is the best breed to raise, at least best results will be secured because greater interest will be taken by the owner in a thing that he likes. However, any breed can be made the best breed if the owner will give the fowls proper attention, for while breeding is important, care and feeding have made more records than any other thing.—J. Raymond Kessler, Chester Co., Pa.

Buff Orpington Hen.

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PHILADELPHIA, PA OCTOBER 20, 1917.

SOME NEEDED LESSONS

Some old wiseacre has said it is an ill wind that blows no good to anybody, so out of the catastrophy of war we may learn some lessons which we superficially realized we needed, but which we would not take to heart. First, we are learning internationalism, or the interdependence of nations. We will better understand the whole world, its needs and its people than ever before. We will never again feel that we are isolated and independent of the rest of the world.

Second, we will have a better appreciation of the function of government. In normal times the average citizen is not conscious of his government. It touches him so lightly that he does not feel it and hence grows careless and indifferent towards it and neglects frequently to perform his share as a citizen in conducting it. Now we are learning its possibilities and our responsibilities. We are finding out to what uses it may be put in regulating and controlling some things that heretofore we had considered as sacredly personal and private business.

Third, we are learning, or soon will learn, some needed lessons in thrift and economy. As a nation we have never been compelled to save food, fuel or even money. Now we find that not only these but time, energy and health also are matters needing careful thought and conservation. We are finding out that many things we had considered as indispensable may be eliminated, or substitutes provided. As yet, we are in but the primary grade in the study of this third lesson.

The fourth great lesson will come after the war closes. The reconstruction of wages, the lowering of prices and wages, the taking up of peaceful pursuits and the reassembling of countless thousands from the work of war into productive lines, all this will need the exercise of the highest intelligence and most honest purpose.

* * *

FOOD PLEDGE WEEK

Food Administrator Hoover will make the week October 28 to November 4 Food Pledge Week. By means of country and township organizations it is hoped to secure the pledges of all citizens to conserve food in every way possible. Perhaps many of our readers will not fully understand the purpose or the need of such conservation, and will not be in the most complete sympathy with the movement when they are called upon. Let us analyze the situation briefly: Three things are needed to win the war—men, munitions and food. The men are being drawn, some from your own families. The munitions are being manufactured and the supply is understood to be well provided for. These things can be cared for and are being cared for by the Government with little sacrifice to the individual except in those homes that have contributed a member to the army. But the third requirement, food, is not so easily controlled by the government. It is for each individual to help by changing his or her habit of consumption. There is no need for anyone to go hungry—yet. But by comparatively small changes in out habits of consumption we may save on those things that are most needed, and we may release a large amount of food for export to our Allies. That is what the Food Pledge Week work contemplates—and full compliance with the pledges asked is about the smallest thing we can do in these days when all loyal people must make sacrifices.

The pledge cards will suggest many ways in which we can help. Wheat, meat, fat and sugar are the commodities that are most needed by our Allies. A small saving in each home every day on these foods will release large amounts for shipment. The writer made a trip last week and got his meals at hotels for three consecutive days. He did not eat a piece of white bread or a white roll during that time. It so happened that he met three wheatless days in three different cities on three succeeding days, and he was just as well fed as tho he had been able to get his customary fare. This is but an example of what the hotels and restaurants are doing, and the managers say that they are not meeting with any objections from the travelling public..

The same conservation can be practiced in the home. It is the least we can do to help provide for the men that we have sent into the field, and for our Allies that are fighting our battles for us. Those men are not accustomed to eating corn bread, and they are in work at present that requires the best of nourishment. If we had a friend, sick and in the hospital or under heavy mental and nervous strain, we would not think of sending him substitute foods in order that we might continue to enjoy our customary fare. We would use the substitute and send the best we had. That is the situation now. We have friends at the front that are serving us and depending upon us.

* * *

THE NON-PARTISAN LEAGUE

Sometime ago we made mention of the political success of the Non-partisan League in some of the northeastern states in electing several farmers and laboring men to office and thus defeating the regular politicians. During the past year, the newspapers have made many slurring references to the League, referring to it as "anarchistic", "socialistic", and otherwise aiming to discredit the sanity and loyalty of its members. Having in mind the extremes in speech, and the discreditable political methods of some eastern men and politicians, we quote below extracts from the report of a committee on resolutions acting for a recent convention of the League representing 16 western states. After asserting and pledging their loyalty to the government in the present crisis, the report continues:

> "The profiteers have maintained large and powerful lobbies at Washington, and hampered the administration in its purpose to use the most effective methods to wage this war to a speedy and successful conclusion. They have endeavored to control price-fixing to protect profits. They have opposed every attempt to conscript wealth or to tax profits to the extent our Allies have found necessary. They have sought to thwart every attempt to control industry for the successful prosecution of the war and for the protection of the interests of the American people. They have raised the cry of traitor and treason when any man has dared to criticise them, and have done their best to make any criticism of or any attempt to help the government to adopt the measures found necessary by our Allies and so strenuously opposed by them seem a criticism of the government."

Resolutions passed by this body declared: (a) Approval of the efforts of the senators and representatives who endeavor to protect the rights of the people; (b) in favor of regulating mills and bakeries and thus passing on to the people the intended saving in the price of bread as contemplated in the setting of the price of the farmer's wheat; (c) in favor of providing for the financing of farmers at a low rate of interest so as to enable farmers to remain upon the battle line of production; (d) in favor of price-fixing zones with a uniform price to the farmer at point of delivery; (e) that this nation take the profits of war and the surplus of production as it comes to the surface in the form of swollen dividends to pay the expenses of war, and thus enroll the dollars of America just as the youth of the nation has been enrolled; (f) that we declare for the public ownership of public utilities; (g) that we heartily endorse all truly co-operative societies; (h) that our soldiers during the period of the war be paid not less than $50 per month; (i) that the present immigration laws be rigidly enforced; (j) in favor of the initiative and referendum.

Space is given to the above in order to inform the interested eastern reader of the political and economic ideas of the western movement; for however much the press may ridicule and try to suppress these activities the facts are that there is a decided independent if not radical expression of thought and purpose in the northwest, and that the much censured public representatives are not standing alone.

* * *

FARMERS AND THE DRAFT

The reports that come to us from every quarter show that farmers are aroused over the further reduction of the farm labor supply thru the operation of the conscription act. The feeling is growing that their needs are not fully understood and that intelligent consideration to the importance of agricultural production is not being given by those in authority. It has been loudly proclaimed that food production was of first importance in preparedness for the war and farmers were urged and encouraged to go to the limit. They responded to the call by planting the largest acreage ever, even in the face of the then serious labor conditions. Then the conscription act was passed. In the law is a passage authorizing the President to "exclude or discharge" certain persons, among them those engaged in agriculture. The raising of an army by aid of the conscription act was placed in charge of General Crowder who, so far, seems to make an exception of farmers as compared to some others mentioned in the exemption clause referred to above, and seemingly considers agricultural work secondary in importance to the army.

That the complaint of farmers is justified is proven not only by their testimony, but the actual conditions in the fields as seen in the country bear witness to the shortage of labor. Corn is standing uncut and the feeding value of the fodder wasting; potatoes in many sections are undug and rotting in the ground, and fall grain is not sown—in many instances the ground is not ready. All this bespeaks great loss to this year's efforts and foretells shortage of crops next year. We speak thus plainly because the subject is one that needs plain speaking, not chiefly for the personal interests of the farmer but that the best interests of the government may be served. We publish in another column a report of a meeting held to consider this subject and the resolutions adopted. Below are resolutions adopted by another body of farmers on the same subject:

> "Resolved, That the Brandywine Valley Farmers' Club, of Chester County, Pa., stands firm in favor of food production in a patriotic sense, and of allowing all trained men now engaged in this work to continue without interruption.
>
> "Resolved, That we protest especially against taking boys from the farm by conscription for military duty, thus reducing the ability of the land to supply the world's need of crops.
>
> "Resolved, That we urge all agricultural organizations to co-operate with us in expressing publicly our belief that this food-producing labor should be protected in the way we state."

Different members told how good skilled labor had been taken off the farm by reason of the draft, and that the only labor which could be substituted for it was of high price and not extra in quality.

Some letters received show the writers to be so incensed that we withhold them. This is a time for broad-gauge thinking. We must all make sacrifices and we must be ready to adopt our personal and individual affairs to the welfare of the country. Eventually this may mean the drawing of men from the farms and from all of the industries contributing directly to the prosecution of the war. But we do not believe that the best interests of all demand such a move at this time. The farmers know that they will not be able to meet the needs of production if their small supply of help is further reduced. They must make that plain by making the actual conditions known in a straightforward way, not by impassioned appeals in which there is a taint of class-prejudice or class-feeling. In the final analysis there are just two classes of people in the country today—the loyal and the disloyal. As loyal citizens, the farmers have the best grounds for demanding that their help be spared them until such time as the country will need every able-bodied man. And they must make their needs plain to the authorities if their interests are to be protected.

HARRISBURG NOTES

Compensation Amendments. — It is understood that a movement to bring substantial changes in the state compensation system is to be launched after Christmas by men representing miners and men in other industries who tried to advance the rate of compensation and to change other provisions during the recent legislature. These moves failed because of a strong sentiment that the code should stand the test of years and because of a generally expressed opinion that abnormal times, due to war, did not constitute a period in which so vital a set of statutes should be changed. The intention is to renew the campaign for alterations and it is likely that agricultural assistance will be sought. The general view expressed about the Capitol is that clearer definitions, if not amendments, should be secured by those interested in farming in advance of the next session.

Food Report.—The quarterly statement of the holdings of food in the 70 cold storage warehouses in Pennsylvania reporting to the dairy and food commissioner shows that there were over 14,000,000 dozen eggs in the warehouses on October 1, but that the movement out of the warehouses has started. There were over 16,500,000 dozen in the warehouses at the end of June. It is generally expected that many eggs will be sent abroad and to other states. Almost half of the eggs in storage now are in Philadelphia. Butter held was reported as almost 11,000,000 pounds and there were large increases of beef and pork stored. The state authorities plan to enforce the time limits, but it is probable that the foreign and government demands will cause many deposits to go out before the time for releasing comes around.

Auto Revenue.—The state's revenue from licensing of automobiles, trucks, motorcycles and drivers during the first nine months of 1917, amounted to $3,204,606, almost a million more than for the same period last year and double the whole income of four or five years ago. The registration of cars of all classes in nine months of this year exceeds the whole list of last year, while the truck traffic has assumed proportions little dreamed of. There are over 17,000 trucks and more being turned out every day. The pneumatic tired machines licensed number 297,660 and may reach 300,000 by the end of the year. There are over 2,700 tractors and 806 trailers with 24,000 motorcycles.

Barn Fires.—According to Fire Marshal Port there were 342 barn fires in Pennsylvania between January 1 and October 1 and they were not all due to lightning or green hay. The state had 11,007 fires in that period. The marshal says that this winter above all is a period when farmers should have their barns in the best condition as regards fire. He has issued a circular urging cleaning up about barns.

Many Hunters.—It is estimated that there will be 300,000 hunters' licenses issued this autumn. The bear season starts today and the bird season on Saturday. The regulation as regards hunters under the new code are much the same as under the old one. There is more game than usual and the hunters will be out in force.

Liberty Loan.—In many of the counties of the state the committees in charge of the second Liberty Loan bond campaign have made direct appeals to farmers. Efforts are made to have the bonds, which were liberally subscribed last summer, become a form of investment popular in the rural districts. Aid of school teachers has also been sought. This is the first time that an effort to directly interest farmers in national activities has been made since the civil war when the country people's savings were the means of making the Union safe.

Curb Markets.—Most of the reports coming here tell of success attending curb markets in cities and large towns where they have been tried, altho the activity of agents of commission men in buying up produce in some sections has given truckers and farmers fair returns without the work of taking stuff to markets.

Forest Fire Loss.—The figures of the Department of Forestry show that forest fire loss this year has been less than usual, altho fires were more numerous. Co-operation between owners of woodlands, farmers and people able to give prompt notice was the means of checking damage. The total loss was $567,000, without counting indirect loss, and the cost of fire fighting $35,000. The fire fighting system in the country by means of telephones is growing and showing results.

Toll Roads.—As the state's cash to aid in freeing toll roads is all taken up, it has been suggested at the state highway department that counties desiring to get toll roads eliminated start things moving. In the Lancaster case it was pointed out that the roads should be selected and prices ascertained. Then things can be put down in black and white and state co-operation arranged. —Hamilton, Harrisburg, Oct. 15.

NEW YORK NOTES

State Food Board Organizes. — The new State Food Commission, organized this week, elected a secretary C. H. Betts, of Lyons, and conferred with Governor Whitman. A careful study of the food problem as to the cost of production, transportation, storage and distribution will be their first task. The commission has decided to co-operate with the federal food commission. Headquarters will be established in Albany with a branch office in New York City.

Class Exemption for Agriculturists.—At a meeting in Albany where representative agriculturists of New York and the New England states conferred as to the exemption of agriculturists as a class, they went on record as opposing such exemption, but favored certain assignments. Immediately after the meeting Commissioner of Education John A. Finley left for Washington to present the plan proposed by the conference. The main assignment recommended was that when such men were drafted they be assigned to work in connection with food production and conservation, and preferably in the communities where they were drafted. It had been found that three-fifths of the agricultural graduates had been drafted for army service, and their places could not be filled.

Dairymen Subpoenaed.—Ten farmers who produce milk in Greene and Delaware Counties have been subpoenaed to appear soon before the Grand Jury of New York City which is investigating the increased cost of milk. Dr. G. F. Warren, of the College of Agriculture, has been a staunch witness for the dairymen. When the district attorney tried to shake his testimony as to the amount of feed necessary to produce a given quantity of milk, Dr. Warren supported the figures the College had given R. D. Cooper, the president of the Dairymen's League, and which were used in the estimate of the cost of production, leading to the rise in price demanded by the farmers. "There is no way to make a cow give milk by argument," said Dr. Warren. "The quantity of feed cannot be changed. It takes as much hay, grain and silage, or something else to produce milk now as before there was any such place as New York City." The figures given the League were based on a Broome County canvas of 798 cows and showed the cost of feed per day to be five times as much in winter as in summer. Where pressed to indicate some way in which to reduce the cost of producing milk, Dr. Warren replied that the only way would be to lower the cost of such necessaries used by the dairymen as hay, grain, silage, labor, ice, horse labor, fences, pastures, machinery, depreciation on cows, barns and farm machinery, etc. The prosecutors say they hope to hand down several indictments in their case against the farmers. In connection with the milk situation, which is farcial in the extreme in some of its later developments, it is of interest to note that at a meeting of co-operative farmers held in Utica on Saturday it was agreed to sell Grade B pasteurized milk to grocery stores in New York City at 9 cents a quart. The grocers will retail it at 10 cents a quart and will make their usual profit, a wide difference in both price to the farmer and the price to consumer from that insisted upon by the milk trust who so far have had such a hold on the faith of consumers, due to wide-spread advertising in their own favor, and against the farmer. Cortland milk producers find themselves forced to build at once a local co-operative shipping station, in order to handle their own milk. The League is building several shipping stations for the use of farmers who have no outlet for their milk since the 100 milk stations were recently closed, because consumers cannot afford to buy milk at the prices asked by the dealers.

Crop Notes.—Potatoes are suffering badly from rot in nearly all sections. The extent cannot yet be determined as the lateness of all harvesting has postponed the digging. Tompkins County reports a poor potato crop, with the wholesale price at $1.35 per bushel. Grapes are also scarce, and quinces are very scarce. Onions have reached $1.50 wholesale, while $2 per bushel has been realized in the public markets. At Utica the record price for hops since the dollar mark in 1882 has been reached, that price being equalled. The crop is of unusually good quality this year. Buyers have so far been shy of these high prices and the growers are holding their crop.—F.

NEW JERSEY FARM NOTES

Wholesale Buying.—The idea of a number of persons banding together and "clubbing" their orders for the purchase wholesale of farm products has taken quite a hold thruout the state. It is reported that many carloads of potatoes and large shipments of apples, onions, turnips, sweet potatoes and other foods have been sold in this manner. The state bureau of markets now has a list of over a hundred growers who have signified their willingness to sell under this arrangement. The idea of co-operative buying seems to have taken the greatest hold upon factory and office employes. The Citizens' Committees in Westfield and Hackensack are reported arranging for the buying of potatoes by the carloads.

Direct Buying.—Farmers having surplus quantities of hay and grain on hand are being asked by the State Bureau of Markets to list their names with the bureau. Many farmers in the trucking sections and elsewhere purchase all such feeds and to enable them to obtain feeds without unnecessary shipping, handling and profiting, the plan for the list of surplus stores has been devised. It is believed that many will avail themselves of buying in this way.

Tax Law Sustained.—Chief Justice Gummers, of the State Supreme Court, has denied an application for a writ to review and set aside as unconstitutional the law passed at the last session of the Legislature providing for a direct state tax of $1 on the thousand of all property in the state, thru which the plan to finance the new $15,000,000 state highway system is to be carried out. The law was attacked by Jersey City, Passaic and one or two individuals. It is contended that it does not include as taxable property, the holdings of railroads or the bank stock in the state. Further litigation is anticipated.

Grade Crossings.—A victory for the removal of grade crossings in New Jersey was won when the Court of Errors and Appeals upheld the order of the Board of Public Utility Commissioners commanding the Erie Railroad to remove fourteen crossings in the city of Paterson. The cost of their removal is estimated at $3,000,000.

Highway Improvement.—Failing to get the federal government to do the work, the state highway commission and Governor Edge have decided to make improvements in the highways leading to the two mobilization camps in New Jersey, to cost approximately $150,000. Governor Edge says he believes Congress later will realize the making of proper approaches to the cantonments is its responsibility and will probably reimburse the state for the expenditure to be made.—L.

PRICE CORRECTION

The price of the portable wood-saw advertised by Hertzler & Zook Co., Box 9, Belleville, Pa., in Pennsylvania Farmer, Sept. 22 and Oct. 6, should have been $9.90 as printed in this issue.

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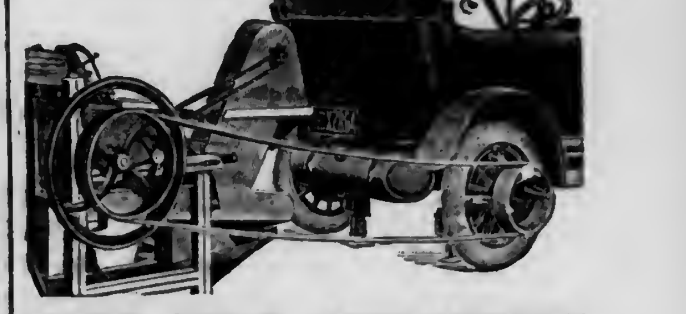

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34x4	$8.50	37x4½	$10.00

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The New York Milk Rates

Developments in the Efforts for Paying Prices

Since New York state dairymen learned how to effectively take a voice in regard to the price of their own product last fall, they have been the target for opposition from politicians and the milk dealers. Thru their efforts legislation has been passed hindering and thwarting any concerted action on the part of farmers. Even the Governor has tried to foist on the public as food administrator a man who openly states that his "opposition to the Dairymen's League has been open, constant and vigorous. In my judgment what they are doing is not only immoral but illegal." This determination of the state's executive was foiled by strong public opinion after a long and bitter fight. And this was greatly prolonged by the farmers' and the general public's reluctance to hamper the Governor after his previous apparently earnest efforts to better food conditions in the state. But anyone can see that anything that makes dairying such an unprofitable investment that farmers are slaughtering their herds for beef rather than to continue it is a general blight on the welfare of the public.

Keystone Plum Johanna 139787, Grand Champion Holstein Cow at Trenton Fair in 1917. Owned by Geo. E. Stevenson & Sons, Lackawanna Co., Pa.

A recent canvas of the milk business shows that over 21,000 cows above the normal number have been sold for beef in New York state within the last few months. A farmer in the first zone, where milk is 10 cents higher than in the zone that produces the greater part of New York milk, says that at the prices paid for milk the past six months the milk producers in his section could not pay their expenses. Their chief expense at present is high-priced feeds. A constant stream of young heifers had passed his place all summer, in carload lots, going to New York City for beef. A neighbor had just sold a valuable dairy of 50 cows, all 50-pound producers, with valuable and expensive breeding back of them. Altho far above the average, all had gone to the butcher. Attempts were made to place such valuable milkers with other dairymen, but no one would buy, as the price of feed made milk production unprofitable.

Now no one can compel any man to keep a cow, especially at a loss to himself. But when there is a fair profit in keeping one the average farmer will be glad to do so.

Even if he can only break even he will keep cows for the sake of the fertility of his farm. The bare fact that he is driven out of the business by low priced milk and high priced feeds ought to be proof enough that the farmer has had unfair treatment.

But there are other and more convincing proofs. The retail price of milk has doubled within the past three years, or thereabouts. Labor and transportation, the chief factors in dealers' expenses, have gone up but they have not doubled. The farmers' price of milk for the past year was raised one cent a quart—an increase of 18 to 20 percent, while the price of feed, which is the backbone of the industry, has increased 100 to 300 percent. And for every cent advance the farmers have secured thru their organizations, and none have yet secured enough to cover the cost of production, the dealers have promptly charged the consumers an extra two cents!

The result has been to place milk out of the reach of the poor and the laboring classes. There was a surplus of 14,000 cans the week of September 22—the greatest ever known in the history of the business, and that during a month of shortened production. This surplus is the vicious result of the attempt on the part of the dealers to take nearly two cents out of every three of the retail price for their own pockets. To give color to their plea for constantly increasing retail prices, they claim a shortage of milk necessitates the raise and the raise prohibits the buying of milk, and there is a further shortage; and so it goes on around the vicious circle.

On the other hand, the dealers tell the farmers that there is such a surplus of milk in the city that they cannot buy the farmers' output, and they have closed over 100 milk stations in the state in their effort to control prices. The farmers do what they can with their milk, and the city babies suffer for want of it. Bordens, the leading dealers, admit closing 35 stations and other firms are close seconds in the effort to keep retail prices up. When the farmers in these localities try to buy or rent these closed stations that they may operate them themselves, they are refused. When the owners of several hundred thousand cows in these localities find no market for their milk, they are forced to sacrifice their cows. Is this not price fixing of the worst sort?

Yet when the dairymen in desperation and self defense set a new standard of prices and by loyal co-operation with each other thru their organization, the Dairymen's League, secure their demands, they are charged with having "New York City by the throat" and with having caused the death of 400 New York babies, for want of the much-needed, high-priced milk. Let us consider the case. The new prices demanded for October and November milk were $3.10 and $3.3[illegible] per cwt., respectively, or 6½ to 7 cents a quart, a raise of 1½ cents a quart. The dealers promptly raised the retail price to 15 and 18 cents and thereby

curtailed consumption to an alarming degree.

The cost of distributing milk is but a small fraction of the cost of production, as was proved by the small dealers in New York during the strike last fall, and as these greedy dealers of today proved in the early days of the milk business, when 7-cent milk was to be had in the city. To every dollar the dealer has invested in the business, the farmers have ten or more, and the latter's daily expenses and the depreciation of their stock are far in excess of the dealers'. One farmer found that his dealer, taking the bigger half of the retail price, had $700 invested as compared with his own $17,000 investment.

The farmers' demands have been very modest. They have run their business with clean hands, and expect to continue to do so, or quit. But they haven't advertised their treatment or their circumstances with the great buying public. They could not afford to. The dealers have long carried on systematic advertising in the big dailies, wherein they blame the farmers for all the exorbitant prices. And the public, much of it, really believes them. Farmers' problems have been discussed in farmers' meetings only, and in the farm press. The city reader sees or hears none of the facts of the case. A leading up-state Sunday paper has just published the first full-page expose of the milk situation even known to appear in the reading columns of a big daily paper. If editors of the big dailies would put the facts so important to all before their readers the dealers' methods would not be tolerated by the public another day.

It had long been the custom of farmers to make six-month contracts with the dealers. Farmers now see that this is too long a period to fix prices in advance in these critical times. Before the expiration of the September contracts, the League sent its president, R. D. Cooper, to Mr. Hoover with a full and fair statement of their case. Days of consultation followed, when the figures submitted by leading dairymen were studied and verified. When Mr. Cooper left Washington it was with the understanding that an increase of 1½ cents a quart be demanded of the dealers, altho figures showed the actual average cost of production to be $3.35 per cwt., a little more than the highest prices demanded.

The dealers at first flatly refused to pay the prices set by the League, after a conference of the directors. Meetings were held in every milk producing section in the state, and the farmers unanimously prepared to make up their milk at home or throw it away if necessary to secure their demands, as the only means of preserving their business. At the last moment the dealers capitulated and posted notices in their stations saying that they would pay the League prices. But they have refused to sign any contracts with that organization or to recognize it as a price-fixing body. The League accepts the situation and is busily planning to help those members where the stations have been closed.

And now District Attorney Swann charges the League with "having the city by the throat", and with having violated the Donnelly act, and Mayor Mitchell has appointed a committee to investigate the increased cost of milk in the city. The League has asked for a public hearing before that committee and is to have this privilege. The farmers invite a close and fair investigation, not only of the cost of production of milk but of its distribution. They want Mr. Hoover to arrange a schedule of prices fair to both farmers and consumers, and if present middlemen are not satisfied to do business on a legitimate margin of profits, let them step out and let the government distribute milk, or the League itself. It is likely that the next contract with the dealers will specify at what prices milk shall be retailed, if the government has not already intervened.—F.

PUTTING SHOCK CORN IN SILO

Plenty of Water Needed for Best Results

Every fall many farmers are delayed in getting their silos completed and find it necessary to cut their corn and shock it before the silo is ready to use in order that the corn may not become too ripe. Other farmers are interested in refilling their silos after the contents have been fed out. Both instances require that shock corn be put into the silo if the silo is used. The Missouri College of Agriculture has investigated the possibility of using shock corn for silage. During the fall and winter of 1913-14, three small silos were filled with corn fodder at different dates and with varying amounts of water. Visits were also made to ten or twelve farmers who were using silage made of shock corn and samples were procured for analysis.

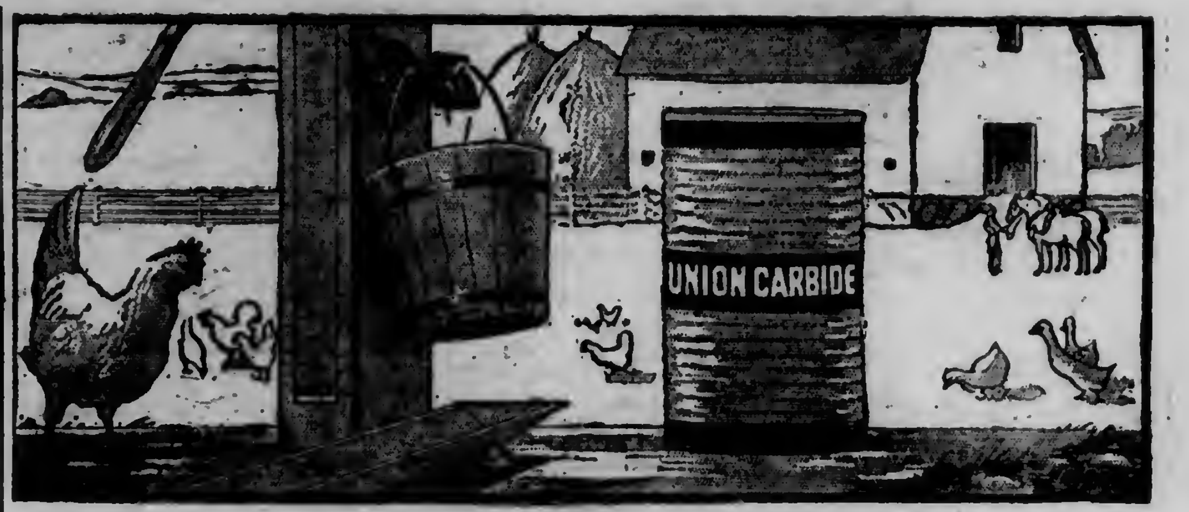
The opinions of the men who had used silage made of shock corn may be summarized as follows: (1) It is a satisfactory feed and animals find it more palatable and appear to do better on it than when fed shock corn. (2) Silage made in this way is not equal to that made by putting corn into the silo at the proper stage. (3) Refilling a silo in the middle of the winter with corn fodder prevents the loss in feeding value which occurs, especially toward spring, when fodder is left in the shock. (4) It is more convenient to feed from the silo than from the shock. (5) Cattle eat more of the stalk when it is in the form of silage, thus conserving a large amount of feed which, as shock corn, would be wasted.

It is doubtful if putting dry corn fodder into the silo will ever become a general practice on account of the large amount of water which is required to put it in proper condition. On most farms it is entirely out of the question to consider putting the dry corn into the silo because of not having an abundant and convenient water supply. The studies made at the Missouri College with different amounts of water show that corn which has stood in the field until it has thoroly dried requires about a ton of water for each ton of corn fodder. This amount of water gives the silage about the normal composition found when corn is put into the silo at the right stage. If, on account of wet weather, the fodder is damp at the time of filling the silo, the amount of water may be reduced a little but if this amount is much less than equal parts with the fodder used, more or less mould will develop in the silage. Failure to add enough water was the most common fault found with the silage made from corn fodder in the ten or twelve silos visited.

Further suggestions on making silage of shocked corn will be found in Circular 71 of the Missouri College of Agriculture, Columbia, Mo.

WHY MILK TESTS VARY

The University of Missouri College of Agriculture has been investigating the causes of variation in the composition of milk for several years. This subject is of importance to the manufacturer of dairy products, to the producer and of special significance in



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11

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connection with the use of milk as food for infants. The College has found several causes for variation in milk not recognized before.

It is often observed that milk is poorer in fat in summer and becomes richer again in the fall and the farmers have generally assumed this to be due to the watery conditions of grass as compared with the dry feed received during the winter. Tests have shown that the cause of this is not grass feeding but the temperature. For some reason there is a tendency for the milk to be richer in fat during cold weather and to become poorer when the weather becomes very warm, regardless of the feed consumed.

A second factor of importance as influencing the richness of milk is the fatness of the cow at time of freshening. A cow high in flesh at calving time gives very much richer milk for some time than would be the case were she thin.

This knowledge is now made use of by every breeder of dairy cattle who desires to make the largest possible record for milk and butterfat production. Another interesting discovery is that when a cow is underfed she temporarily gives richer milk rather than thinner as might be expected. This is of great importance in connection with making tests of cows and a failure to understand this effect has resulted in wrong conclusions from many experiments conducted with cows in the past.

SHY BREEDERS CUT PROFITS

With the close of the pasture season, the breeder of beef animals is confronted with several problems. It is important at this period to cull the breeding herd carefully to eliminate shy breeders and inferior milking cows. Cows that do not produce calves regularly increase the average cost of rearing calves to a weaning age in the herd, thus reducing the general profit.

Experiments at the Pennsylvania State College show that the cost of producing calves to weaning age averaged $43.75 a head when 100 percent calves were raised and $61.25 a head when only 60 percent calves were raised. This difference shows the value of having regular breeders and of saving all the calves.

Cows that produce only a small quantity of milk should be eliminated. Other conditions being equal, the growth of the calf is directly proportional to the milking qualities of the cow. Cows sold at this season will command a good market, and the cost of keeping inferior animals thru the winter may be avoided.

A second item of consideration by the beef breeder is that of securing a sufficient supply of corn silage. Meat can not be economically produced without this feed. Provide enough to last thru the winter feeding period and get it ensiloed in condition to make desirable feed. Immature corn produces a watery silage which does not provide proper nourishment for breeding cows when silage alone is used as roughage.

When silage contains more than 75 percent air dry moisture, some other dry roughage should be fed with it.

PREPARE COWS FOR WINTER

We have learned that any animal allowed to run down in flesh during the late fall months will cost the owner extra dollars for winter feed and will not do as well, no matter what the after care may be. It is far better to reduce the stock to the number that can be well fed, or buy grains and make up for the deficiency. I would never skimp rations in fall or early winter.

While judicious feeding is important it is not all required. Sometimes cows that are well-fed will all at once refuse their regular feed without any known cause. I have found this true with winter milkers, especially those fed pretty high in grains. When ensilage is fed this is not so likely to occur, but with all dry fodder it is quite likely to. One feed of potatoes a day in place of grain will generally restore lost appetite in a day or two.

Some noted dairymen advocate a continuous stabling from fall until spring, urging in proof of the practice that these herds have gone thru the winter in as good or better condition than under the old plan of turning out every day. This may be true for a season, but time may be needed to prove whether its effects may not be injurious after a time.—C., Tompkins Co., N. Y.

COST OF DAIRY HEIFER USUALLY UNDERRATED

What does it cost to raise a dairy heifer to one year and to two years old? This question is answered in the September Monthly Bulletin of the Ohio Experiment Station, in which the claim is made that dairymen usually underestimate the value of heifers. Feed alone at medium prices costs about $33 for the first year and $28 for the second. Cost accounts of raising calves by the Ohio, Massachusetts and Connecticut Experiment Stations and the U. S. Department of Agriculture were used as the basis for these figures.

Labor, interest and miscellaneous overhead expenses must be added to this feed cost. The two-year-old heifer must be credited with a calf and the manure produced during two years. The net cost at medium prices is then given in the bulletin as $44.77 for the first year and $29.08 for the second. At present high prices the net cost for two years rises above $100.

Economy in dairying and care in breeding only good stock are therefore necessary. The heifer from a low-producing dam and an inferior sire will not return the cost of her production and maintenance.

THE QUALITY OF CHEESE

A good cheese will stand up square and have an even colored, unmottled rind. The cheese with a soft, porous interior will sometimes have this outward appearance, so that the flavor can not be altogether determined by outside examination. By pressing the rind with your finger tip you can judge pretty well as to the inside quality of the cheese. If it yields readily under pressure of the fingers and the rind breaks or does not spring back readily, it is a pretty sure thing that the cheese is a soft article, caused by not being cooked enough, by want of acid, or both. At best it will be decidedly lacking in flavor, and as the cheese gets more age it will be "off" in flavor.

A cheese that feels so hard that you can not dent it, except by hard pressure with the fingers, is either sour, salted too heavily, cooked too much, skimmed or lacking perhaps in all of these essential points. It is great satisfaction to any one interested in this line of work to examine a good cheese. To the touch it will be mellow yet firm, its rind of an even hue, elastic and free from puffiness, and a sample will show a firm grained, meaty cheese, buttery and of a nutty flavor. In testing the quality of cheese, many experts do not employ the sense of taste, but simply that of smell. In many cases it is best to use both taste and smell. —V. M. C.

Horticulture

MARKET GARDENING NEAR THE GREAT LAKES

(Continued from page 1.)

After a pleasant trip on Lake Michigan, the famous celery section of Kalamazoo, Mich., attracted attention. North of the city there is one immense section (Fig. 5) three miles long and a mile and a half wide devoted almost exclusively to the growing of celery. The soil is a well decomposed muck as black as ink. The entire section is divided into small farms of from six to ten acres each. These are owned and worked by the family without hired help. Spraying is quite unknown but the leaf diseases are coming; therefore, spraying will soon be taken up. The marketing methods are quite crude. From the time early celery is ready for the market until the last of the late crop is gone, a small one-horse load is taken each day to the shipper in town. The celery is tied up in an attractive way, i.e., twelve stalks are placed in a round bunch and quickly tied together with common white string. The sales until recently were made thru jobbers in the town but last season a co-operative selling organization was started by the most progressive growers with the result that those growers were receiving from two to four cents more net returns for a bunch of a dozen stalks than did those who sold thru the jobbers.

Toledo, O., has an immense market place entirely covered with a roof and provided with raised concrete walks so that the farmers may back their trucks up to these and display their products to advantage. Almost everything is sold by weight. About twenty of the largest producers around Toledo have organized the Toledo Gardeners' Exchange, Fig. 6 (bottom center column). They have their own store directly across the street from the city farmers' market. These organized farmers pack their products uniformly and bring it to the exchange. There the sales manager does all the selling and forwards the returns to the growers minus a minimum percentage to cover the overhead charges. This exchange is a benefit in many ways: It develops a uniformity of pack among its members; one salesman controls the pooled products so that individual salesmen will not try to undersell one another, and a competent salesmanager makes it possible for the farmers to remain at home, thereby increasing production. The market gardens were scattered around Toledo in all directions. However, I found that the forcing of cucumbers and tomatoes in greenhouses was a large industry.

Cleveland is a very large and beautiful city, but its farmers' market was such only in name. The growers' trucks were scattered along the streets and were even standing in vacant house lots. The Rocky River section of Cleveland is filled with immense greenhouse structures. The illustration (Fig G, top right-hand column) shows immense rows of hothouse cucumber vines higher than a man's head. One grower tried the new method of fumigating his houses according to the ideas he had gained at the convention. Cleveland was so full of interest that it was impossible to see it all in less than two days. The Brooklyn section of Cleveland was intensely filled with market gardens, Fig. H. It reminded me of the market gardening sections around northern Jersey. In one of the large lettuce houses the overhead irrigation pipes (Fig. 1) could be seen spraying the water upon the soil in a gentle mist. The next farm to be visited was that of the ex-president of the Vegetable Growers' Association of America. In his market garden, the celery rows were nearly twice as close as we usually have them in New Jersey. This was made possible due to the fact that the soil is heavily mulched with stable manure between the rows. This holds the moisture and the growing celery receives an application of liquid manure with every rain.

Large fields of asparagus were growing on the farm of the secretary of the Cleveland Market Gardeners' Association. He was getting nearly twice as many bunches of asparagus from an acre as we Jersey men were getting; however, investigation soon revealed the fact that their bunches are much smaller than the standard size New Jersey bunch of asparagus.

Early morning trips to the markets, visiting the market gardening sections during the day, and travelling to the next city during the early evening was turning my vacation into hard work instead of a rest. Therefore, I resolved to have a few days of recreation at Niagara Falls. Words and pictures can not illustrate nor measure the beauty and power of that stupendous spectacle. Every American should see it. The trip around the famous Gorge Route thrills every tourist. A ride above the angry whirlpool in the recently constructed suspension carriage (Fig. K) certainly gives one an idea of the tremulous sensations experienced by an aviator.

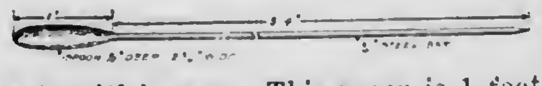
As I went onto the Canadian side of the gigantic cataract, British soldiers could be seen doing sentry duty and great lines of barbed wire entanglements were constructed before Queen Victoria Park. When I saw the British flag floating in the breeze over my head, I realized for the first time what the protection of Old Glory meant to a hundred million people.

The trip taught me a few important things: The grower must grow the type of vegetables the consumer wants and he must pack them in the kind of container which his particular market requires. Business methods and system in the management of a commercial vegetable farm are actually more important than the cultural methods. Each section has its peculiar advantages for the growing of certain crops, and since transportation facilities are so highly developed, it is imperative that each grower specialize on a few crops which may be the most remunerative ones in his community.

A VALUABLE NEW BLASTING TOOL

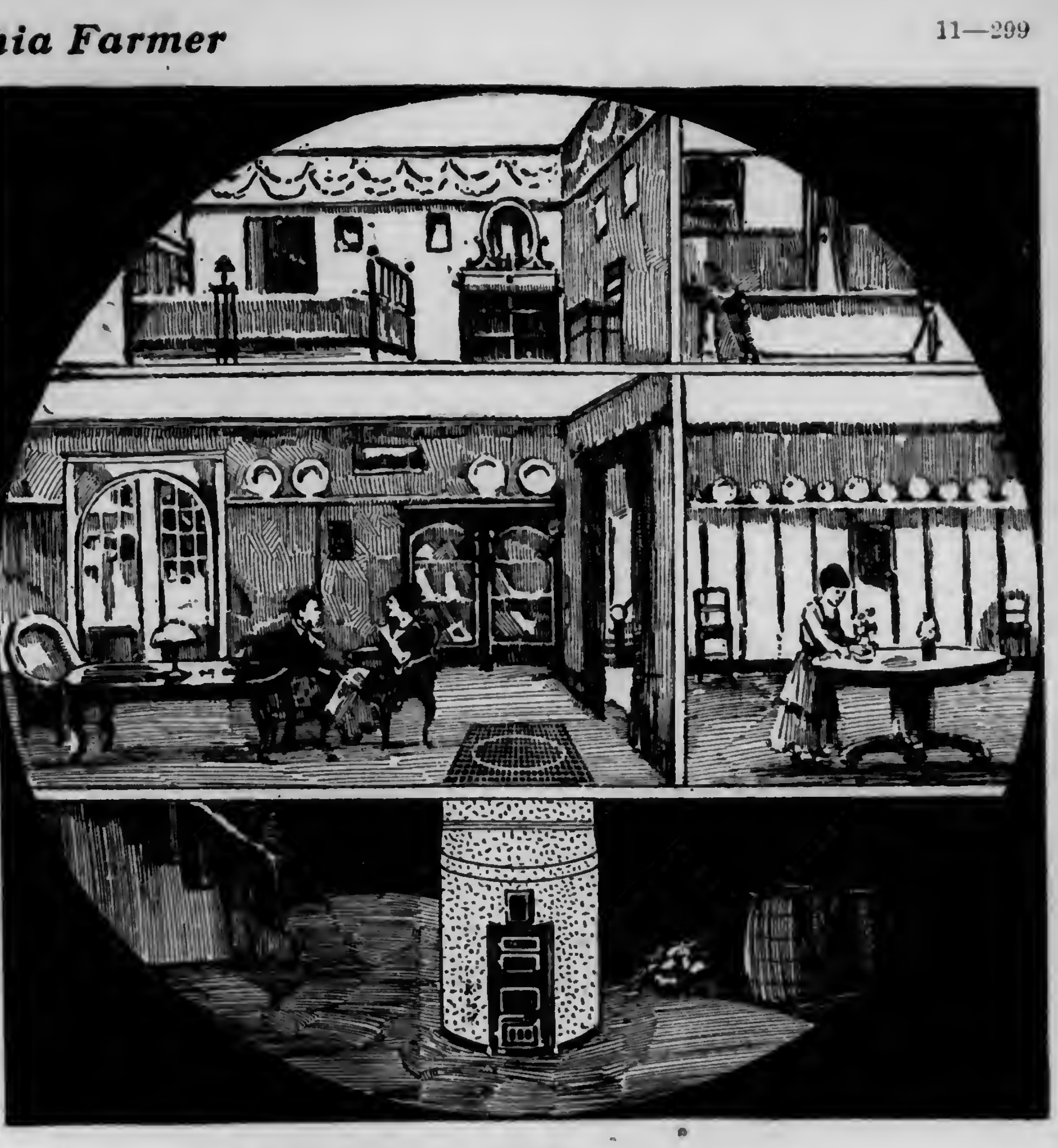
In doing some stump blasting recently, I found a new tool in use that is superior to the ordinary auger or driving bar for most farm conditions.

It is made of ¾-inch iron rod 5 feet 4 inches long. At the bottom of this tool is a spoon made of a worn-out blacksmith's rasp. This spoon is 1 foot long, 2¾ inches wide and ½ inch deep.



It is used as a spud, loosening the dirt and at the same time bringing it out. This makes a particularly good hole for the dynamite, especially in sandy soil where the lateral roots are wide spreading and it is desired to get from two to three pounds of dynamite immediately under the center of the stump.

Any blacksmith can make this tool for $1.50 or less. See etching.—Guy G. Means, Michigan.



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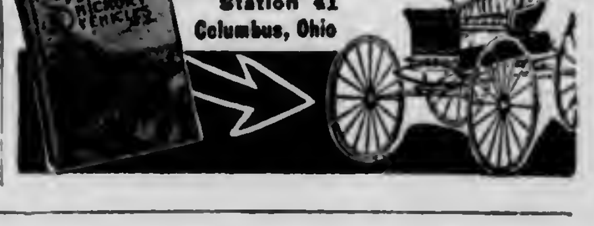

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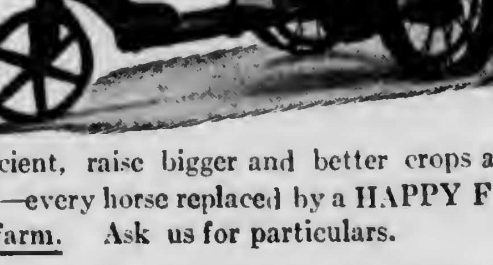

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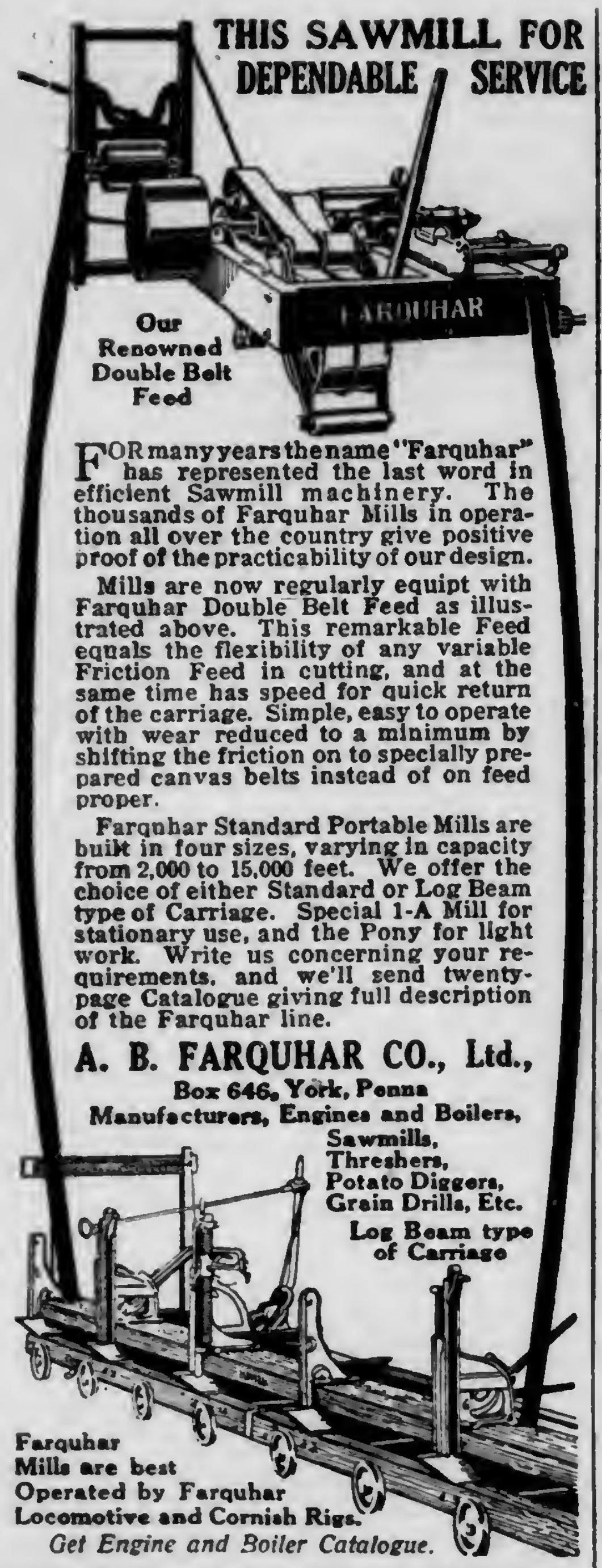
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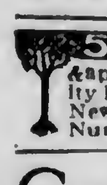
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Vegetable Growers Convene

Tenth Annual Meeting of National Association

Do you know that 15 percent of the American diet is made up vegetables, and only 10 percent of fruits? Perhaps you did not know that the vegetable growers of this country had such an "edge" on the fruit growers. Quoting President Selby, "the ordinary horticultural society meeting finds the fruit men occupying the main auditorium and the vegetable growers stuck off in an anti-room." The proportions thus indicated are due to organization rather than to actual proportions of the two industries. And if the Vegetable Growers' Association of America succeeds in developing present plans it will soon take the position in organization that it now occupies in actual production.

The Vegetable Growers' Association is a "live wire" bunch altho limited in members. Its meeting at Springfield, Mass., October 10 to 13 was the tenth in its history and was as marked in its progressive plans for the future as in advance over past years. Notes on business sessions further on in the report indicate a progressive program. The convention opened in the splendid auditorium which is a part of Springfield's magnificent Municipal Group. There were the usual formalities in which the visitors were welcomed to the city and state. The program was given an enthusiastic start by a vigorous address by President Howard W. Selby.

President's Address

Upon the outbreak of the war Mr. Selby became associated with the Bureau of Markets of the U. S. Department of Agriculture. In this work he traveled over a greater part of the country and visited every active vegetable growers' association east of the Rocky Mountains. Many timely and practical suggestions were drawn from his observations in this work.

First, need of more local organizations and a stronger national association. When the Federal Department undertook the development of its market news service, it asked where service should be rendered. The logical answer was in those sections having strong local organizations to co-operate with and make effective the service offered. Local communities must organize if they expect to participate in outside service. And that is as true of other branches of farming as of market gardening.

Second, the most progressive gardening sections are those that have associated with and felt the influence of the national body. There is need of a stronger membership campaign by the National Association.

Third, it is time for the National Association to employ a paid secretary to give his entire time to association work. Such a man might properly spend a part of his time visiting local associations and developing membership; a part to development of market and supply reports to be put at service of local organizations and a part to advertising and propaganda work developing the uses of staple vegetables. He could also act as advance convention agent and prepare for convention meetings now held in new locations each year.

Fourth, Government statistics show that the American diet is made up of about 39 percent meats, 31 percent cereals, 15 percent vegetables, 10 percent fruits and 5 percent sugars and condiments. Meat and cereal manufacturers have won their high position thru judicious advertising. The same methods could increase vegetables to 30 percent of the diet and save money to the consumers.

Five, home gardening has been a disturbing factor in certain sections this year, but they will prove the best piece of advertising for vegetable growers in the end. There will likely be less home gardening another year, but the amateur growers know what it costs in money and labor to grow vegetables and they have developed a wider demand for fresh vegetables.

Six, in summary every prospect demands more and better organization.

Growing Vegetables Without Manures

The discussion on "Can Vegetables be Grown Commercially Without Animal Manures", conducted by Sidney B. Haskell, of the Soil Improvement Committee, touched a question of general interest. Mr. Haskell pointed out that cities were producing just about the same quantity of manure available to market gardeners now as twenty years ago. But (and this is a most significant "but") the production of manure is not keeping pace with demand. Seventeen years ago there was one draft horse to every 25 people in Chicago. Today there is one draft horse to every 37 people. Prices of manure are advancing until in some sections of New Jersey the gardeners are paying $4 per ton. This makes the question of means of curtailment most important.

Mr. Haskell quoted examples of methods used in various sections of the country where manure has not been used for periods as long as twenty years. Typical cases cited were those of Geo. H. Roberts and Horace Roberts, of New Jersey and Abram Hosteter, of Pennsylvania. Geo. Roberts has brought up poor land by use of vetch and rye as cover crops, turning such a crop down at least once every two years, and continues to produce splendid crops of vegetables without manures. Mr. Horace Roberts bought a run-down farm 28 years ago. He sold off practically all of his stock and has never bought manure. He now operates 2,600 acres. His method has been to bring the soil up with cow peas grown with commercial fertilizer and turned down. Then he continues to turn under green cover crops as often as possible in his regular cropping plan. He uses lime and fertilizers for cover crops as well as for commercial crops. Mr. Hosteter has a regular cropping system without manure. He grows a crop of truck and sows wheat in the fall. He seeds grass and clover in the wheat and turns the clover under and plants truck again.

In summary, Mr. Haskell presented these conclusions: Humus is the result and not the cause of good farming. If manure is short, fertility can be maintained by cover crops. Second, when manure is short, light applications of manure have a wonderful effect in increasing growth of cover crops. Third, the profits of any business system must govern the system. Prices of manures and prices of the crop are the governing factors. Fourth, answering the question of possibility of commercial growing without manure, for the man growing vegetables for the cannery, yes; for the trucker, yes; for the intensive market gardener, yes if he has plenty of water available.

In discussion of these conclusions it appeared to be unanimous that the intensive grower cannot succeed without manure. He can not afford to grow cover crops on $1,000 per acre land. When manure gets too short, he had better take more land or cheaper land and garden less intensively.

Nation's Food Supply

Dr. T. N. Carver, of Harvard University, discussed the Nation's Food Supply and the Market Gardener, from a standpoint of all producers and consumers. He predicted what the present war should mean to all of us, and is likely to mean in the near future, when "we begin to feel the war in a way that will hurt." It is and will be a war of food, and food and land and labor and household economy are all associated. To supply men for the army and for necessary industries we must draw them from unnecessary industries, and to create unnecessary industries we must change habits of consumption. As examples of unnecessary industry, figures given in the Government Crop Report for May, 1917, show that foods used in the manufacture of alcoholic drinks per year amount to 7,333,000,000 pounds. It is estimated that about one-sixth of this may be necessary in manufacture of denatured or commercial alcohol. Physiologists have determined that the remaining five-sixths would furnish rations for 6,000,000 men for a year. Is this worth while?

Another saving resulting from change in habits of consumption is in substitution of unusual foods for those in the regular diet. Reducing the foods to calories, it has been determined that the product of one acre of potatoes in a balanced ration is equal to the product of 2.6 acres of wheat, with wheat yielding 30 bushels per acre and weighing 60 pounds to the bushel. In the same way, and always with the foods properly balanced in the ration, the product of one acre of sweet potatoes is equal to the product of 4.8 acres of wheat; beets, carrots and turnips, 1 acre to 3 of wheat; cabbage, 1 acre to 1½ of wheat; parsnips, 1 acre to 3½ of wheat. These are all bulky products and not readily shipped; hence we can all help in the food problem by keeping these at home and leaving the concentrates to be shipped to our Allies and our armies. Mr. Carver suggested that campaigns of education be conducted by Defense Boards, state and district food administrators and newspapers to instruct housewives in food equivalents of different commodities.

Saving Half a Billion Dollars

President Howard W. Selby undertook to show how we could save half a billion dollars annually in the nation's food bill. He succeeded and had $160,000,000 to allow for inaccuracies. Three years ago, in Southern California a grocer inaugurated what he called the "three-way" system of selling. It should be called the "four-square" system. To patrons paying cash and carrying purchases home, he sold at cost plus a regular margin of profit. To patrons paying cash but asking delivery he charges 10 cents for delivery, whether it is a pair of shoe laces or 5 bushels of potatoes. If patron asks credit, he charges one percent extra for credit. Applying customary charges to the various items in modern business methods, Mr. Selby made the following computations:

The total farm value of all farm crops produced in the United States in 1916 was placed by the U. S. Department of Agriculture at $9,400,000,000. But one-third of this was used at home, leaving $6,266,666,000 worth to be sold. Jobbing, wholesaling and retailing costs made the final retail price on these commodities amount to $13,000,000,000. The Harvard School of Business Administration has determined that deliveries cost about 3 percent of the retail price. Charging 3 percent on the 13 billion dollars' worth delivered would amount to $390,000,000. The carrying of charge accounts makes necessary a staff of bookkeepers costing 1 percent of retail cost. One percent on the 13 billion is $130,000,000. It is claimed that losses due to bad bills mean a further loss of 0.5 percent. One-half of one percent on the 13 billions means $65,000,000. Here is a total of $585,000,000 loss due to delivery and credit service.

Further, statistics show that there are $5,000,000,000 worth of grocery products sold in this country every year. On a strictly cash basis, every grocer can discount his bills 2 percent for cash. Two percent discount on the full value would be $100,000,000. But granting that only three-fourths of the grocers availed themselves of the opportunity to discount bills, there would still be $75,000,000 saved. This added to the savings enumerated in the above paragraphs would make a grand total of $660,000,000 lost by deliveries, bad bills, extra office labor and failure to discount.

Overcoming the Labor Problem

M. L. Ruetenic, of Ohio, discussed the troublesome labor problem and was given the closest attention as there were many that had found labor their worst problem. But Mr. Reutenic did not mention the draft or the competition with other industries. He has solved his problem on a long term arrangement by adopting the profit-sharing plan. His plan was described as follows: He puts down the farm and equipment at cost. The amount paid to men as wages is added and called capital, upon which dividends are declared every six months. Then a man earning $700 per year with him gets dividends on that amount. If the plant earns 10 percent, the man gets an additional $70 for the six months period. Every man must work on the place for a year before he is given the chance to share in the profits. After the second year the men are allowed to invest in the plant at the rate of $200 a year for ten years. Thus after 12 years every man will have the $2,400, plus his wages, to draw interest on. Mr. Ruetenic has followed this plan for 12 years, and loses only about one man out of fifteen hired.

Farm Vegetable Storage

This proved a subject of very timely interest as the matter of storing products on the farm gives evidence of increasing. R. W. DeBaun, of New Jersey, led in the discussion. He outlined three principal means of farm storage—the use of a root cellar, outdoor pits and trenching of vegetables covering with salt hay and manure. For root cellar, he suggested building on level ground rather than banking in a side hill. He advised building along the vegetable packing house or some similar building so that the cellar may open into the building rather than into the open. He would excavate about three or four feet and build up with concrete or hollow tile, bringing the walls up about four to five feet high before starting the arch roof. Arch the roof over, making the cellar about seven feet high, and cover over the roof with earth. The earth covering should make about two feet. Provide well for drainage and ventilate with six-inch tile set in the ridge of the roof. Cover upper end of the tile with woven wire to keep out rodents. Run a six-inch tile along the floor and out underground to an out-door opening. This together with the tile in the roof will give opportunity for ventilation. Ventilate when the outside is at the freezing point, or nearly so; never when outside temperature is high.

In using pits and trenches, Mr. DeBaun advised covering first with hay and straw and putting on a rather thin covering of earth. Then as the weather grew colder, cover heavior with manure as needed. The discussion developed interesting facts on the value of precooling vegetables before putting in refrigerator cars for shipment. C. B. Lewis, of New Jersey, related experiences on the point. He said that he had shipped sweet corn that had been in storage for seven days and four days on the road and it came out in good condition. Having a cold storage plant on the farm, he precooled all vegetables before loading, and then by allowing ventilation between packages in the car he had little trouble in shipping.

Drying of Vegetables

A. G. B. Bouquet, of Oregon, discussed the Commercial Drying and Evaporation of Vegetables. He outlined the rapid development of the kiln drying and dehydrating processes in the West. He noted that the practice was more needed in the West than here because of the cheaper freight cost in shipping a dry product long distances. He assured us that the dry product could and would come into general use when the public became acquainted with it. The modern drying process does not leave the dried product dead and shrivelled, but turns it out with all tissues intact. As such, the further use of the dehydrated product is in line with modern conservation demands. The product may be transported cheaper, may be put in cheap cartons and does not require expensive packages. The only drawback to its instant acceptance by the public is that the dried product must be soaked for some hours before it can be used, hence is not what the housewife would term an emergency dish. Dehydrating will make use of all excess production and all of the waste and culls; but a cull is always a cull, and is not advised. Standardization of the dry product when it comes into general use will be as important as with other vegetables.

Auction System of Marketing

The auction system of marketing vegetables was discussed by Mr. Scott, Boston representative of the Southern Citrus Fruits Co. He pointed out that the large co-operative companies are all coming to the auction system, which has been in use in England for more than a hundred years and in use in New York and Boston for more than fifty years. In Boston now from 20 to 75 cars of fruit with a gross value of $1,250 each are sold every week day. He described the auction method in detail and made the following observations: Auction bidding is always upward; dealer buying is always downward. The auction systems sell the lower grades as advantageously as the higher. Theoretically it is possible for the buyers to get together in an auction sale and regulate the price, but they never do. It has been tried but does not work. All records are kept by the auctioneer, and there is a record even to the name of the buyer open to anyone that wants it. Cars are unloaded as soon as sold, and very little of the product goes to a speculator. He knows that he will have to compete with other goods coming in and selling the next day, hence any matter held merely adds to the competition of the following days. There is no room in the auction business for tricks; everything is open and above board. The only question of the application of the auction system to vegetables is the question of standardization.

Report of business session and vegetable show will be given next week.

THE man who bought a strong safe, put his valuables within and left it open, was a trifle wiser than the other who built barns and a home but gave them insufficient paint. For while robbers may come, decay from weather attacks is absolutely sure to come.

The great paint, both for protection and beauty, is made of

Dutch Boy White-Lead

Exterior paint is made by thinning Dutch Boy white-lead with pure linseed oil, and either used white or tinted to any desired color. It is thoroughly waterproof. It clings firmly to the wood and neither cracks nor scales, no matter how hot the sun, nor how cold or wet the weather.

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Dutch Boy Red-Lead
mixed with linseed oil prevents rust on iron or steel fixtures, implements and machinery. Keep it on hand for retouching all exposed metal. It will save money.

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Northeastern Penna. Holstein-Friesian Breeders' Club 3rd Annual Sale

Oct. 23-24, Ackerly, Pa. Fair Grounds

125 Head Cows, Yearling Heifers Heifer Calves & Service Bulls

Included in this sale are 75 Cows that will be fresh by day of sale or soon thereafter; 31 Yearling Heifers, bred to freshen in the spring; also Heifer Calves and Service Bulls.

There are nine grand-daughters of King of the Pontiacs.
There are daughters and grand-daughters of such bulls as Pontiac Korndyke, Hengerveld De Kol, Sir Korndyke Pontiac Artist.
Cows bred to and daughters of such sires as: King Pontiac Alcartra Pietje, the $10,000 son of the $50,000 bull.
Friends Pontiac Korndyke, 25-pound son of Pontiac Korndyke.
Napol Prince, the bull with a one-thousand-pound yearly butter record backing him.
King Hengerveld Hartje, a thirty-pound grandson of the Great King Segis.
Napol Sir Keystone Beauty, son of the world's record senior four-year-old, Keystone Beauty Plum Johanna, 1,294 pounds butter in one year.
Prince Segis Korndyke, Jr., thirty-pound grandson of Pietje Hengerveld Count De Kol.

In this sale are some of the best of the breed, including cows with records up to 26 pounds of butter in seven days, and one of the best show cows in Pennsylvania.

Ackerly, Pa., is near Scranton, and has excellent trolley service. For catalogs address

C. A. STARK, **Springville, Pa.**

Farm Products Prices and Prospects

GOVERNMENT CONTROL OF WOOL PRICES LIKELY

That government control of wool prices is near at hand is accepted generally in the local wool trade. It was noted that the attitude of the government has been steadily tending toward a more restricted form of buying ever since it came into the market on its own account at its own prices. Complaints of soaring prices that have been received from time to time at Washington during the last three months from every branch of the textile and clothing trades have apparently convinced the authorities there that the law of supply and demand can not be justly operated without definite control.

For instance, the consumer has blamed the clothing retailer; the latter the clothing manufacturer, the clothing manufacturer the woolen mill men; the latter the yarn man, who passes it on to the wool dealer, who points to the grower, who in turn complains about the cost of production, and so it has been going in "this is the house that Jack built" order. In this connection latest reports from Washington indicate that the government has been investigating price conditions in each of the trades enumerated and is about to announce a price control plan.

The announcement last week by the committee on wool supply for government use that the release of 290,000 bales of Australian and East Indian wool was for shipment to the United States was assured is another matter uppermost in wool trade affairs. It was understood that the wools referred to in the release include 25,000 bales of Australian wool now on its way for navy use, 45,000 bales of Australian wool to be sold at auction, 250,000 bales of Australian wool for government use and 25,000 bales of East Indian wool. Latest Washington advices are to the effect that definite arrangements have been made for the shipment of these wools.—Public Ledger.

THE MEAT SITUATION

The world is facing a scarcity of meats and the problem of today is not one of prices, but of production. The government report on hogs in the country on September 1 showed there were 5,427,000 fewer than one year ago and 8,038,000 fewer than two years ago. Figuring about 160 lbs. of dressed meat to the hog this gives about 860,000,000 lbs. less hog meat available than a year ago and about 1,280,000,000 lbs. less than two years ago. The Government Bureau of Markets reports that 51 markets of the country received for the first eight months of this year 24,326,038 hogs, 2,676,490 fewer than received in the corresponding eight months of 1916. Figuring about 161 lbs. of dressed meat to the hog, they would equal 3,916,492,118 lbs. of meats. This will give a fair idea of what hog products were available in pounds during the first eight months of 1917.

It almost staggers one's imagination to figure what the future requirements of meats will be. The average yearly exports of meats for three years prior to the war were 2,574,632 lbs. of fresh pork and 377,667,667 lbs. of hams and bacon. The exports for the year ending June 30, 1917, were 50,429,275 lbs. of fresh pork and 933,811,642 lbs. of hams and bacons. The average annual shipments of all kinds of meats for the three years preceding the war were 486,837,839 lbs. For the year ending June 30, 1916 the exports of meats totaled 1,323,779,731 lbs. and for the year ending June 30, 1917, the exports of hog products alone totaled 1,499,476,444 lbs. Undoubtedly, prior to our entry into the war, considerable of our exports found their way into Germany and Austria thru neutral countries, such as Sweden, Holland, Denmark, Norway and Switzerland. Our government may be relied upon to see that the Central Powers get nothing from now on, but our Allies must be supplied with meats and the United States must furnish it. Our own government will be a big buyer of meats to feed the large army we must raise.

Our domestic consumption will be up to the limit, because owing to the industrial conditions prevailing, labor will be employed to its fullest capacity and the working man will not only have the appetite, but also the pocketbook with which to gratify it. With these facts before us, it is impossible to arrive at any other conclusion than that there will be for the coming 12 months a keen demand for every pound of meat this country can produce and if we would sell the neutral countries all they would buy, there would be a demand for more than we could possibly produce, therefore, we are forced to the conclusion that meats and hog products of all kinds will rule very high in price for a long time to come.—W. G. Press, in Price Current.

CATTLE UNCERTAIN

Some farm papers continue to insist that one reason why farmers do not go more into livestock is the uncertainty of the future of that business; from which one must conclude that the farmer is quite a different man from all other producers. It would be difficult to find a single manufacturer or a single merchant who would hesitate for one moment to go into any kind of manufacturing or mercantile enterprise when the conditions of a certain large future demand seemed so likely as the future of the livestock business. With this country showing a continuing and cumulating shortage of meats of all kinds, as has appeared to be the case for several years past, and when it appears that all over the western world there is an increasing shortage of livestock of every kind, one cannot conceive where the uncertainty of the livestock business of this country can come in. What farmers need more than anything else, as we conceive it, is somebody to get them out of the habit of thinking that they are going to get rich quick by any of their operations. Such a thing is impossible. The farmer has but one turnover a year. Now, no man can get rich quickly with a single turnover of his capital in a year. Farming is a business that requires patience, thrift, hard work, but it is a business that is sure. Farmers somehow, altho many of them are never able to tell how, are always able to make a living. Few farmers even seem to go dead broke. Some of them get rich, but they do not do it in a minute—only by continually plugging away, and none seem to do better in the long run than a farmer with plenty of good livestock; the better the herd and the more costly the feed apparently the more money he seems to make.—Price Current.

The old empiricism that corn alone will make cheap hogs was given a hard knock in a test at the Wichita yards by the Kansas Agricultural College men. It was found that the "corn only" feds cost $12.10 per cwt. gained, while the corn-and-meat-meal feds cost but $7.72 to make the same gain. Further, the addition of a pound of alfalfa hay reduced the cost of the making hogs by the the "corn-only" ration to $9.86, showing that alfalfa in the ration was worth in hogs $78 per ton. There is money in hogs if one knows the game, even with feeds apparently too high to be used at a profit. "It is hard for some folks to change their habits of feeding, but very profitable to do so."

FROST DAMAGE

Since our last issue we have received the following additional reports of estimated damage done by the frost on September 10 and 11. Since the crops named were not mature in most instances, the damage was serious.

Pennsylvania

County	Corn	Potatoes	Buckwheat	Vegetables
Cambria	50	20	60	25
Clinton	15		15	10%
Clearfield	60	20	75	30
Clarion	25	10	30	10
Columbia	50		50	
Erie	5	10	10	10
Green	5		12	2
Jefferson	25	15	40	15
McKean	50	15	20	12
Mifflin	5	5	5	
Potter	25	20	40	20
Schuylkill	80		50	15-75
Somerset	30	5	15	
Sus'hanna	10	5	30	15

Huntingdon Co. reports $40,000 damage to corn, $15,000 to buckwheat and $10,000 to vegetables.

New Jersey

County	Corn	Potatoes	Buckwheat	Vegetables
Morris	25		33	12
Sussex	10	8	10	heavy

The cattle runs the last few weeks have been breaking the records in most Western markets, while the hog run is just the reverse. Scarcity of feed and fewer hogs seems to be the explanation. But on the ranges of the West another reason may be found for the big runs of cattle, to wit: The draft has literally taken (as in Arizona, at least) every cowboy in the state worth having. This is so true that many cattle men in that state declare that range industry has been put to an end forever.

THE WHITE EGG TRADE

The greater part of the egg trade of New York makes no distinction as to color of the shells. Only a small part of the demand gives preference to white shells and this preference applies almost exclusively to new laid eggs of fancy quality. There is no use in separating white eggs from brown unless they are of very fancy quality in the spring, and of reasonably new laid quality in the fall. Nearby henneries in this section produce white eggs chiefly and when the production begins to increase after the scarcity, and for some time thereafter, or so long as the pullets' eggs are usually undersized, a large proportion of the eggs are of small to medium size. These are often, or usually, mixed with the larger sized eggs, while their value is much less. Also the demand for white eggs at comparatively high prices is very fastidious as to the chalk white color of the shells. Eggs having a creamy tint detract from the selling value when included in cases of otherwise fancy quality. In the flush of the spring lay, during April and May, the premium obtainable for fancy white eggs falls to the minimum and sometimes disappears; it increases during the summer when the average quality of eggs from more distant points falls off, and reaches maximum during the fall scarcity of new laid qualities. Shippers who wish to get a reputation for their goods should cull out the small and cream tinted eggs and ship these separately.

CROPS AND PRICES COMPARED WITH 1916

The total production of important products compared with last year is estimated as follows: Corn, 125.7 percent; wheat, 104.4 percent; oats, 122.4 percent; barley, 112.7 percent; rye, 118.1 percent; buckwheat, 171.2 percent; white potatoes, 162.1 percent; sweet potatoes, 124.2 percent; tobacco, 106.1 percent; hay (all), 83.6 percent; clover hay, 78.7 percent; sugar beets, 127.4 percent; apples, 87.6 percent; peaches, 115.4 percent.

The estimated number of stock hogs in the country on September 1 is 8.3 percent less than a year ago.

The acreage intended for clover seed is estimated to be 18 percent less than cut last year; the condition is 1 percent better than average — forecasting a production about 25 percent less than last year.

Prices

The level of prices paid producers of the United States for the principal crops decreased about 9 percent during August; in the past nine years the price level decreased about .7 percent during August. On September 1 the index figure of prices was about 73.1 percent higher than a year ago, 111 percent higher than two years ago, and 101 percent higher than the average of the past nine years on September 1.

The prices of meat animals—hogs, cattle, sheep, and chickens—to producers of the United States increased 3.3 percent from July 15 to August 15; in the past seven years prices increased in like period .9 percent. On August 15 the index figure of prices for these meat animals was about 47 percent higher than a year ago; 75.7 percent higher than two years ago, and 70 percent higher than the average of the past seven years on August 15.

WASHINGTON APPLE CROP

The commercial crop of apples in the state of Washington is estimated to be 10,750,000 bushels against 10,400,000 bushels last year. The total agricultural crop of the state is estimated at 13,435,000 bushels against 13,825,000 bushels last year.

Among the Granges

Chautauqua County, N. Y.—The third quarterly session of Chautauqua County, N. Y., Pomona Grange was held at Stockton, September 13 and 14, Worthy Master Aiken presiding. The lecturer, Sister A. M. Gieger, presented an excellent program. Brother Lawrence Nelson, of Stockton Grange, gave the address of welcome, to which Brother Rollin Cass, of Frewsburg Grange, responded. Considerable time was spent in a discussion of the state road construction. Prof. F. C. Hartzell, of the state experiment station, gave an interesting and instructive talk on Insect Enemies of Farm and Garden; Sister W. H. Mercer, of Fredonia Grange, read a paper on Home Hygiene; and Brother L. S. Strivings, former chaplain of New York State Grange, addressed the meeting on Farm Economics, urging the best possible farming, strong rural communities, and rural leadership with a vision. An original play by Miss Clarabel Munger, of Stockton, and excellently presented by members of Stockton Grange, was a prominent feature of the evening's entertainment. The outstanding events of the second day were an address on Woman Suffrage by Miss Louise Grant, of New York City; a paper, Reading for the Farm Home, by Sister C. H. Nundy, of Lombard Grange, and an address by J. Leo Sullivan, of Dunkirk, on Advantages of Rural Life for Young People. The entire meeting was well interspersed and enlivened by humorous recitations and evidently all present enjoyed both to the fullest extent. Excellent meals were served by the entertaining grange, in the grange dining room.

Bucks and Philadelphia Counties Pomona.—The following are the preambles and resolutions, constituting an appeal to President Wilson, which were adopted by the Bucks and Philadelphia Pomona Grange, in session at George School on September 5:

Whereas, There is today not only a lack of farm laborers, but of skilled farmers as well, so that this year's crops cannot all be properly harvested and next year's acreage will necessarily be greatly reduced if this shortage of labor continues, and

Whereas, Patriotism is love of country and devotion to its welfare, a vital question today is "Where can the farmer and the farmer's boys best serve their country, in the trenches or on the farm?" Experience has shown that it takes three men back home to keep one going in the trenches. Great Britain has found it necessary to bring back thousands of skilled farmers from the trenches of France, and

Whereas, When selective conscription was discussed in Congress, the main argument in favor of this method of raising an army was that every one would be drafted into the service where he would be most valuable. It was known at that time that agriculture needed more help, and when experienced farmers are called to military service their places cannot be filled.

Therefore be it resolved, That we appeal to President Wilson and to the district exemption boards, asking that experienced farmers, who are doing their duty on the farm, be exempted from military service and that they be kept in the agricultural producing force of our country, to which they shall give a record of their labors if necessary.

Also be it resolved, That copies of this resolution be sent, not only to President Wilson and the district exemption boards, but also to State Master John A. McSparran and the newspapers.

Signed on behalf of Pomona No. 22,
Samuel K. Foster, Master,
Emma S. Woodman, Secretary.

At noon lunch was served on the beautiful lawn surrounding the school. The afternoon opened by initiating a class in fifth degree.

"The best type of silo" was discussed by Paul Woodman, who recommended tile. "Home gardens" were said by some to be a failure in many instances, by others a success. The city boys working on farms this summer have learned a lesson in the value of farm produce, and there will likely be less complaining by city people since the boys' experience.

"What are reasonable prices for farm products this year?" and "How can we solve the fertilizer question?" were well discussed. Farmers who kept accurate accounts say it will cost seventy-five dollars or more an acre to grow corn this year. Some advocate husking without cutting and plowing under stalks next spring. Even if fertilizers are high they are necessary. —M. R. B.

CITY BOYS IN THE COUNTRY

The recent fiasco of the experiment of sending boys from the city to help the farmer brings home the lesson which we must all learn if co-operation between city and country is to become the desirable and quite possible reality for which we hope.

Boy scouts to the number of 1,000 were sent from Richmond, Washington, and Petersburg to help the farmers of the Eastern Shore of Virginia harvest their potato crop. In a week the little fellows, shorn of all their fine enthusiasm, were glad to be ordered home.

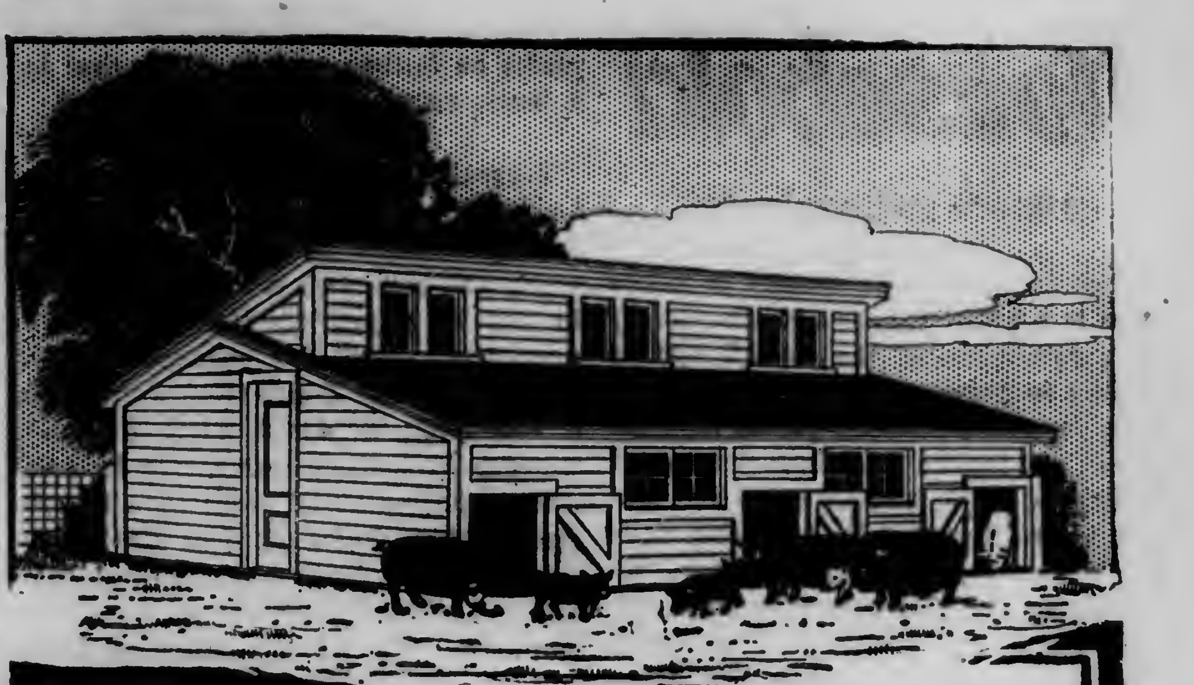
The trouble seems largely to have been the incapacity of the city to understand the needs of the farmer. It was requested that no boys under 15 years should be sent. Many as young as 12 years arrived. Their disappointment was keen when they found that they could not earn the anticipated wage because they could not pick up the expected amount of potatoes in a day.

Even the larger boys had not the hard, trained muscles of country boys of the same age, and country boys know better than to expect a man's wages. In most places they get 50 percent of a grown man's wage. It is claimed that many men picking up potatoes earn double the sum the scouts were led to expect. The boys felt overworked, underpaid, and very tired. In some cases the cots upon which they were to sleep had not arrived on time, but what would that have meant to a country boy? He would have stretched out on some hay and snored until morning. The city boy, we believe, would have done the same if he had found himself as equal to cope with other conditions as he and his advisers had counted upon.

It seems too bad that this honest effort on the part of both country and city to get together should have failed. More understanding is required on both sides.—American Fruit Grower.

PENNSYLVANIA FARMER POPULAR

Pleasant Valley Grange wishes to thank you for the beautiful U. S. Flag presented by you thru your representative Bro. L. S. Partridge. Brother Partridge says that in looking over the list he finds that nearly every home represented in our grange is represented on Pennsylvania Farmer's subscription list; so it must be our grange paper.—C. S. Bates, Sec.



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Household

CARROTS TO YOUR TASTE

With the advent of carrots in plenty there is a great addition to the variety of vegetables for the cook's use in helping to conserve wheat flour. There is no vegetable more adaptable than the carrot. It can be used in a very great variety of ways, and its color and texture is so attractive that it never fails to please. Its blandness of flavor allows many combinations with other materials, and the influence of the other foods used with it changes the flavor so that one does not tire of carrot if used very frequently indeed.

For very early use, so early that we can get but few to use at a time and want to make the most of the few, remember, next July, the following:

Viennese Carrots

Blend 1 tablespoon of butter or chicken fat with 1 tablespoon flour over the fire and add 1 cup of water in which a bunch of carrots has been cooked. Boil four or five minutes and add 1 teaspoon sugar, 2 tablespoons vinegar, salt and pepper to taste, a bit of minced parsley, and 1 cup of boiled diced carrots. Simmer a few minutes and serve hot as a side dish.

Creamed Carrots Au Gratin

Blend 2 tablespoons butter with 1 tablespoon flour and add 2 cups milk. Add 1 quart boiled diced carrots, $\frac{1}{2}$ cup grated cheese, and salt and pepper to taste. Pour into a baking dish and sprinkle with buttered bread crumbs. Bake 5 minutes in a hot oven.

Young Carrots a la Maitre d'Hotel

To 1 quart of boiled carrots cut into small dice add 4 tablespoons melted butter or salad oil, salt and pepper to taste, 1 tablespoon lemon juice or vinegar, 1 teaspoon sugar and 1 teaspoon minced parsley. Heat together and serve.

Raw Carrot

Grated raw carrots especially the young tender ones, are becoming popular for salad use. Any convenient combination with other vegetables or fruits may be used, with a good boiled dressing, preferably a sour cream dressing, as the tart taste is very delicious with crisp salads of this sort. A trifle sweet mayonnaise is delicious on raw grated carrot served in a mound on a lettuce leaf.

A Fine Raw Carrot Salad

Arrange lettuce leaves on plates or line a bowl with lettuce or other delicate salad leaves. On this heap a mixture of 1 cup of celery cut fine, or 1 cup of finely shredded cabbage, 1 cup of grated carrot (or it can be put thru the food chopper), $\frac{1}{2}$ cup nut meats, diced cucumber pickles or olives, and 1 cup of sliced tart apple, pears, oranges or other fruit in season. Toss lightly together with a boil dressing.

Good Salad Dressing

Good dressing is made as follows: Melt 1 tablespoon butter, add 1 teaspoon mustard, 1 teaspon sugar, $\frac{1}{2}$ teaspoon salt, pepper to taste, and the beaten yolk of 1 egg with 4 tablespoons of lemon juice or vinegar. Cook in a double boiler until thick, then add the beaten white of the egg while hot. Chill, and add 1 cup of sour cream whipped. Mix the vegetables together lightly with enough dressing to make slightly moist, and place in the nest of lettuce leaves. This recipe can be adapted to almost any fruits or vegetables on hand.

Cooked carrots make fine salads with dressing alone, or with nearly any vegetable left over, such as peas, cold potatoes, beets, cabbage, or with raw fruits. They may be sliced or diced, but should have the pieces distinctive, not mashed or broken. Serve on individual plates on lettuce, or mixed together in a bowl, using any favorite dressing.

Canned Carrots

I usually put them up in two ways, i.e., with just salted water to use for salads, creamed in soups or in other ways, and also with a vinegar dressing to use as a pickle. Both styles are very convenient for emergency use. This is the way I can them for use as a vegetable: I blanch them 5 to 10 minutes in boiling water, dip in cold water, and scrape off skin; then I pack them, either whole, sliced or diced, into sterilized jars, with new, scalded rubbers, fill with slightly salted water, and boil the cans in a tightly covered pail or boiler 90 minutes. If the carrots are to be pickled I fill the cans with hot diluted vinegar sweetened to taste, and boil 50 to 60 minutes. I only partially tighten the covers when placed in the boiler and count the time of actual boiling only, and tightly seal each cover at the end of the period without lifting the tops.—Mrs. Mabel G. Feint, Tompkins Co., N. Y.

"I am doing my canning and jelly making with honey; Mr. Hoover can have the sugar."

TWO METHODS OF CURING PORK

Hog killing time is coming. It is especially important this year that each family cure an abundant supply of meat. P. F. Trowbridge of the Missouri College of Agriculture offers two methods of curing pork:

Dry Cure

Do not cut up the pork until the carcass is well chilled. Make a mixture of 40 pounds of clean, fine salt, 10 pounds of white or brown sugar, 4 pounds of white or black pepper and $\frac{1}{2}$ pound of red pepper. This will make enough cure for about 1,000 pounds of pork. If saltpeter is desired, use 2 pounds in the above mixture. It will give a red color to the lean meat but has a tendency to harden the meat too much. Chili saltpeter may be used instead of the regular saltpeter by taking about 20 percent less.

Rub each piece of meat thoroly with the cure. Take special care to work the cure around the ends of bone of hams and shoulders. Pack skin down on a table or in a box in a cool, airy place. Do not place in direct sunlight or in a damp, musty cellar. After four or five days overhaul the meat, rub thoroly with the cure and repack; repeat this in about a week. Hams and shoulders should remain in the cure from $1\frac{1}{2}$ to 2 days per pound weight of piece; the latter time is safer for meat that is to be kept during the summer. Bacon should be in the cure a shorter time. Ten days will give a very nice mild cure to a six- or eight-pound piece.

Brine Cure

Make a brine by boiling 7 pounds of clean salt and 2 pounds of white or brown sugar with two gallons of water. If saltpeter is desired add one-fourth pound. This gives about enough to cover 100 pounds of pork when well packed. Sprinkle a little clean fine salt in the bottom of the barrel, rub each piece of meat lightly with the salt, sprinkle a light layer of salt between each layer of meat. Put on a board and weight down with a rock. Allow to stand over night. Tip barrel on side and allow the liquor to run out. Cover the meat with the cold brine and allow to stand in a cool place 4 or 5 days. Overhaul, repack, and cover with the same brine. Repeat in about a week. Give the meat the same length of time for curing as with the dry cure.

When the curing is complete wash off the excess cure and hang in the smokehouse. Meat kept in the cure too long should be soaked in warm water to remove the excess of the cure. Smoke with hickory, oak, apple, or any non-resinous wood. Avoid all wood of the pine family. With a continuous smudge the smoking can be completed in 24 hours. With intermittent smoking longer time is necessary as cold meat "takes the smoke" slowly. Wrap the meat to keep it away from the skippers. If rats or mice get at the meat they open a way for the skippers. In damp weather cured meats will mold. This is not injurious except it is advisable to use up shoulders, as the mold grows in the cracks and calls for excessive trimming.

MY WINTER SOUP TIMBER

I want to tell you about my mixture of vegetables that I can for winter soups: I scald, peel and mash one peck of ripe tomatoes; then run 2 heads of cabbage, 12 medium sized carrots, one bunch of parsley, 3 stalks of celery and one-half peck of onions thru the food chopper. I boil 12 ears of corn ten minutes, then cut it off the cob and scrape out all the pulp, then mix it with the other vegetables, adding a small handful of salt per gallon. If the mixture seems too dry, I add water. I boil it until the carrots are thoroly cooked, and seal, while hot in quart jars. (Better sterilize the cans after filling in a boiling water bath for at least 30 minutes, then screw down the covers tight to make sure that no mold spores have been canned alive to make trouble.—Editor.) In winter add contents of jar to soup stock, and a rich vegetable soup will be had at any time on short notice.

As we have promise of sugar price being lowered by January 1918, I am canning crabapple, grape, blackberry, and other juices, and shall make the jellies in winter. I have been accustomed to canning crabapple juice to have to thin jellies and jams that get too stiff by not being used when fresh. Often strawberry jams gets very stiff towards spring. Then I put on the stove some strawberry juice I have canned; make a syrup of it and stir it into the jam. It makes it taste almost like fresh preserves. For yellow tomato preserves, I like to can the tomatoes and make the preserves in the winter. If a lemon is expensive a few drops of lemon extract is just as good to flavor tomato preserves.—Mrs. Lloyd R. Shuman, Juniata County, Pa.

CHOOSING MEATS AND MEAT SUBSTITUTES

Since protein is one of the most important food elements which the body needs and in most forms is expensive, because it occurs most commonly and largely in meats and eggs and milk, housewives should know more about providing foods rich in this substance in family meals economically. The principles underlying the choice of such foods are discussed in Farmers' Bulletin 824, "Foods Rich in Protein", recently published by the U. S. Department of Agriculture. Protein is the only form in which nitrogen is furnished to the human body, and nitrogen is absolutely necessary for the building and repair of body tissues.

Foods rich in protein are meats, fish, eggs, milk, cheese, legumes, nuts, etc. The proteins of the different foods vary somewhat in character. It does not make much difference from which materials older persons get their supply of protein, tho a variety of kinds is desirable. In the case of children, however, milk is the very best source of protein.

Housewives may solve the problem of furnishing the needed protein of the diet economically by learning how much protein is provided by the different kinds of food, then choosing the kinds which will furnish what the family needs at comparatively low cost and with little waste. In this bulletin one finds handy tables, giving the amount of the protein in a pound of various protein-rich foods, also the percentages of protein in the different foods.

It is not ordinarily necessary to measure food as carefully as a doctor measures his medicine or even the food which he prescribes for an invalid. If the body is in good condition it adapts itself to the ordinary variations in its food supply. The danger comes when, day in and day out, the body gets too much or too little food, or when the kinds provided are not the most suitable. Therefore, if the diet as a whole is to be healthful and economical, the person who plans it, also those who eat it, ought to know in a general way how much protein and other nutrients are needed and how much is contained in the different food materials, then choose accordingly. This bulletin contains recipes for the preparation of economical dishes rich in protein.—U. S. D. A.

DEVILS FOOD CAKE

Having seen a request thru your helpful columns for a chocolate cake I am sending my recipe for a devils food cake. If properly followed it will bring out the desired darkness of color: 2 cups dark brown sugar, $\frac{1}{2}$ cup butter or lard, $\frac{1}{4}$ cake of chocolate (grated), 2 eggs, 1 cup coffee (warm), 2 teaspoons baking soda sifted with 3 cups flour.—Mrs. Herbert H. Dunkelberger.

Food and the Menu.—With the idea of giving some practical suggestions as to food requirements and the arranging of the menu, Pennsylvania State College has published Circular 65. This circular itemizes the various food requirements of the body, outlines in detail the careful planning of meals and suggests recipes and menus. Food classifications are covered in this circular. It is free upon request.

TO KEEP WORMS OUT OF BEANS

"Kindly let me know how to keep dried beans from getting worm-eaten."—Mrs. J. B. L., Lansdale, Pa.

For a small quantity the best plan would be to put them in shallow pans and bake in the oven at a temperature of 130 to 140 degrees for about half an hour. This will kill the eggs and the larvae which have gained access to the beans in the field. For beans which you are likely to wish to use for seed the better way will be to fumigate them with carbon bisulphid, because the baking process is likely to kill the germ of the bean, particularly if the heat should run above 140 degrees for any length of time. The bean weevil moth lays her eggs on the pods, then the tiny larvae hatch and burrow into the tender beans for feeding purposes. Then they emerge and turn into weevils, and breed and develop several broods during a winter, which accounts for the infestations which surprise you sometimes when you open a bean bag. Therefore if all the eggs and larvae attached to the beans when brought from the field are completely destroyed before you put the beans away for the winter, and if you store them in receptacles where the weevils can not get at them, you will not have any trouble with wormy beans. Paper bags sealed tightly by tying or, better, by pasting, make good containers for small amounts. Stout, closely woven cloth bags are also all right. Keep the beans in a dry, well-ventilated place.

To fumigate with carbon bisulphid, put the beans in a barrel or box made practically air-tight by lining with paper, leaving 6 or 8 inches at the top unfilled with the beans. Pour some carbon bisulphid (about 1 ounce per barrel) in a shallow dish on top of the beans, cover the barrel with paper, wrap a thick, wet blanket around the barrel, and let it stand 48 hours. The gas that the liquid evaporates into is $2\frac{1}{2}$ times heavier than air, therefore it settles down thru the beans and smothers the weevils. This gas is also very inflammable, so you must not let any spark or flame of any sort come anywhere near the barrel while the fumigation is going on, and the work had better be done outdoors. And you do not want to breathe too much of the gas while you are adjusting the wrapping of the barrel. However, several whiffs of it will not hurt you; any way, you will wish to get the barrel covered as quickly as possible in order not to waste any of the gas. You get the carbon bisulphid from your druggist.

Fly a flag on the farm and teach the children what it stands for.

When made into apple butter, even the ugly windfall has a glory of its own.

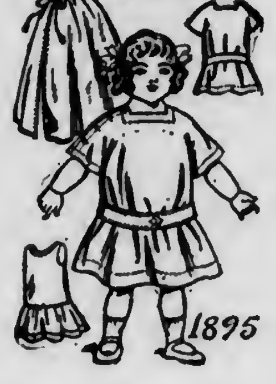
PENNSYLVANIA FARMER PATTERNS

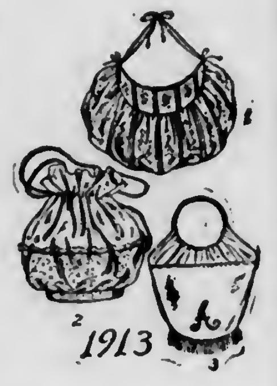
Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

Clothes for Dolly and Bags for Maidens

1895.—Attractive Set of Clothes for Dolly. — None too early to think about getting the dollies ready for Christmas. Maybe this year it will just be new clothes for old dollies. This set comprises a simple one-piece dress, a waist-petticoat, drawers and a cape. The pattern is cut in 5 sizes for dolls: 18, 20, 22, 24 and 26 inches in length. The dress requires $\frac{5}{8}$ yard, the drawers require $\frac{1}{2}$ yard, the petticoat requires $\frac{1}{2}$ yard, the cape requires $\frac{5}{8}$ yard of 36-inch material for a 22-inch size. Price, 10 cents.

1913.—Some Popular Bags.—No. 1 is a smart roomy work bag for the Red Cross knitting that you are doing, for shopping, etc. It has firm upper portions and ample space for any article one may wish the bag to hold. It may be made of bright colored cretonne, silk, satin, or velvet. No. 2 is a dainty opera bag that will be lovely in chiffon taffeta, faced with gold lace and gold braid. The base could be a mirror or covered with contrasting material. No. 3 may be developed as a hand bag good for many uses. It could serve as a shopping bag or for crocheting, knitting or sewing. In a combination of linens, or velvet and silk cretonne and denim, it is very attractive. Two rings of covered wood or jade hold the upper portions. These three attractive models are cut in 1 size. No. 1 requires $\frac{3}{4}$ yard of 36-inch material; No. 2 requires $\frac{5}{8}$ yard, and No. 3 requires $\frac{1}{2}$ yard. Price, 10 cents.

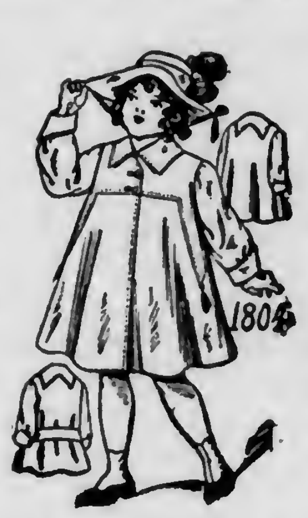


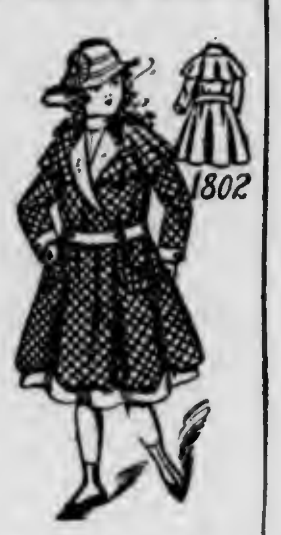


Coats for the Little Girls

1804. — Seasonable Coat for Little Girl.—The fronts are finished with a yoke in deep points, to which the body portions are joined. The sleeve is new and smart. The collar is rolled and shaped over the back. The pattern is cut in 4 sizes: 2, 4, 6 and 8 years. It requires $3\frac{1}{2}$ yards of 36-inch material for a 6-year size. Price, 10 cents.

1802. — Warm and Stylish. — The fronts are turned back to form revers which meet the coat collar. The cape may be omitted. The fronts overlap in double breasted style. The pattern is cut in 5 sizes: 6, 8, 10, 12 and 14 years. It requires $4\frac{1}{2}$ yards of 44-inch material for a 12-year size. Price, 10 cents.

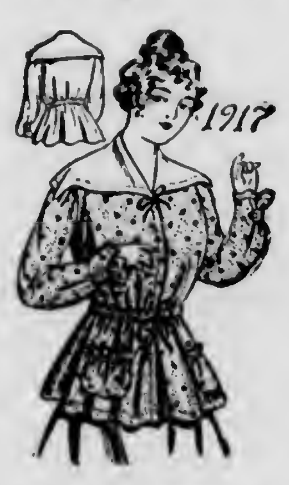


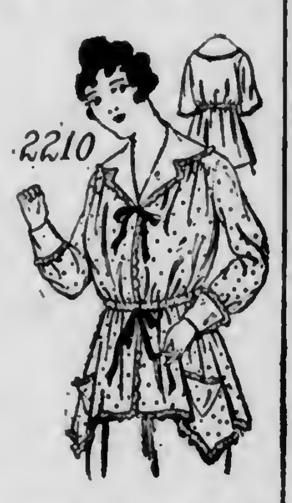


House Jackets for Mother

1917. — Ladies' Dressing or House Sack. — The fulness at the waist-line may be gathered or left unconfined. The pockets may be omitted. Pattern is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It requires 3 yards of 44-inch material for a 36-inch size. Price, 10 cents.

2210.—Dainty Dressing Sacks.—The pattern is cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires for a 38-inch size $3\frac{5}{8}$ yards of 36-inch material. Price, 10 cents.





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SAVE MONEY By our new 20th Century methods. 100,000 Imperials now in use. Housewives delighted. IMPERIAL RANGES are made of highest grade materials. 365 DAYS' GUARANTEE. Will not warp or crack. Have the marvelous oven baking Old Dutch Oven modernized—a STONE OVEN BOTTOM—which holds heat like a Fireless Cooker. Great fuel savers and new kind of PERFECT ODOR HOOD. Test all these without risk in your home before buying any range. Write at once.

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Doctors and Dressmakers Both Endorse This Corset

M&K Uplift CORSET

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Oct. 15, 1917.

Upward, ever upward, exactly describes the condition and the tendency of the market during the last week. Shipments have been light for the period of the year and under a steady active demand prices are showing a small advance nearly every day. While the total offerings of bulk potatoes in the Pennsylvania and Reading yards were 101 cars, this is not a large amount for this period of the year. There were about 10 cars of sack and barrel potatoes at the Market House Depot. Best Pennsylvania round stock is now selling at $1.75 per bushel, with other grades from $1.60 to $1.70. New York State round stock is moving freely at $1.50 to $1.60; while New Jersey Giants bring from $1.40 to $1.45 per bushel. Some Giants in sacks sold as high as $3.75, but the bulk of the sales were made at $3.50 to $3.65 per 150-lb sack. Eastern Shore barrel stock sold mostly at $4.75 to $5, altho a few extra fancy went out as high as $5.50, but these were exceptional. While Jersey ⅝-bushel baskets sold as high as $1.10 to $1.15, the bulk of the sales were made at $1 with No. 2's at 60 to 70 cents.

The rainy weather which prevailed during the greater part of last week caused quite an advance in the sweet potato market as the farmers were unable to dig and get them on the market. As a result, prices advanced full 15 cents per basket and stock that sold slowly last week at 65 to 75 cents readily brought 85 to 90 cents this week, with good No. 2's selling as high as 60 cents. Only a limited number of Eastern Shore stock is arriving and these brought from 50 to 75 cents a barrel higher; good stock going out readily at $3.50 per barrel, with No. 2's at $2.50.

Vegetables

Good green beans are now a scarcity and prices show quite an advance since our last issue. Fancy stock of both green and wax are selling readily at $1.15 to $1.25 per ⅝-bushel basket, with some exceptionally fancy higher. Lima beans are also doing better, with most sales now being made at $1.50 to $1.75 per basket. Dried beans rule firm but practically unchanged in prices. Best marrows bring $9; pea and medium, $8.75; and red kidneys, $7.50. Beets show little change and sell from 2 to 3 cents per bunch, with barrel winter stock at $2.75 to $3. Brussel sprouts are more plentiful and lower, best bringing 17 cents, with poor on down as low as 12 cents. Carrots show no change, selling from 65 to 85 cents per ⅝-bushel basket. Receipts of cabbage are fairly liberal, but the market is very active and prices seem to be steadily advancing. Large sizes for krout purposes are selling at $28 to $30 while the medium size heads bring up to $32. Cauliflower is gradually easing off as supplies slowly increase. Crates containing one dozen heads sell from $2 to $2.75. Celery seems to be more plentiful, and the market is lower, best stock now selling at 70 cents per bunch of one dozen stalks with smaller on down as low as 25 cents.

Egg plants show an advance over last week's decline and good stock is now selling at 50 to 75 cents per basket. Good horse radish is scarce and readily brings $10 to $11 per barrel, but some poor small roots sold as low as $5. The lettuce market is doing better and good stock is now selling at $1.25 to $1.50 per box, with hampers bringing $1 to $1.25. Fancy onions are scarce and higher, some sacks from California with 100-lb. selling from $3.65 to $3.75. Ohio, Illinois, Indiana, Massachusetts and New York are all shipping onions to this market, but outside of some New York stock, which sold at $3.35 per sack, most of them were rather poor and prices ranged from $2.75 to $3. Parsley continues plentiful and rules steady at $1 to $1.50 per 100 bunches. Parsnips are practically unchanged from last week, ranging from 60 to 65 cents per basket. Green peppers are weak and while some did sell at 60 cents a basket, the bulk of the sales ranged from 30 to 45 cents with some poor and small as low as 25 cents. Other peppers ruled firm and unchanged. Cayenne brought $1 to $1.50 and tomato peppers, 75 cents to $1. Pumpkins are now getting quite plentiful, selling all the way from $7 to $10 per 100, according to size. Spinach is meeting a good demand at $1.50 to $1.75 per barrel. Squash meets a very limited demand at 20 to 35 cents per basket. Most of the tomatoes that are now arriving are very poor in quality, and sell generally from 50 to 75 cents per basket. Some that are showing fair quality bring $1 per basket, but strictly fancy if here would sell at $1.50 or higher. Turnips are a little more active and prices show little advance. White sells from 50 to 60 cents per basket and yellow from 60 to 70 cents. Rutabagas are also doing better, selling from $1.25 to $1.40 per cwt. Watercress is in fair demand at 1½ to 2 cents per bunch.

Fruits

Offerings of apples continue very light for the season of the year. On Monday there were only 19 cars offered at the Market House Depot, as against 46 cars on the corresponding day a year ago. Under these light receipts and a strong active demand, the market rules firm and while quotations as they appear below apparently show little change over last week, sales generally ranged nearer the outside prices so that the market is really about 25 cents higher. Grimes Golden, York Imperials and Staymans are all quoted higher than last week, prices ranging about as follows: Wealthy, $3.50 to $5.50; Grimes Golden, $3 to $6; Gravenstein, $3.50 to 5; Smokehouse, $3 to $5.50; Johnathans, $4 to $6.50; Blush, $3.50 @$6; Greenings, $3 to $5; Baldwins, $2.75 to $4.50; Alexander, $3 to $5; Twenty Ounce, $3.50 to $5.50; York Imperials, $3 to $4.75; Bonums, $3 to $5.50; Starks, $3 to $5; Staymans, $3 to $5.50; Black Bens and Ganos, $3 to $4.50; Ben Davis, $3 to $4; Gillflower, $4.50 to $5.50; Hubs, $3 to $5; Kings, $3.50 to $5.50; Gideons, $3 to $5. Crab apples, $6 to $9. Bulk apples, $2 to $2.25 per cwt.

Pears are rather plentiful, demand not so active and market easier. Bartletts selling at $1.25 to $2.25 per bushel; seckles, $1.75 to $3 and barrels at $6 to $7.50; Sheldons, $7 per bbl; D'Anjons, $4.50 to $5 per bbl; Duchess, $3.50 to $4 per bbl; Keiffers, $2 to $2.50. Quinces are in good demand at $6 to $7.50 per barrel. Peaches are not selling nearly as high as they did last week, while some Elbertas sold at $1 to $1.50, the market generally ranged from 90 cents to $1.25 per bushel. Grapes are selling at about as last quoted. Concords sell from 70 to 75 cents per jumbo basket and pony baskets at 16 to 18 cents. Niagaras in pony crates also bring 16 to 18 cents and Delawares at 18 to 19 cents. While plums are not plentiful, prices are ruling easier. Prunes sell from 35 to 38 cents per 4-quart basket and $1.75 to $2.75 per bushel. There were no Damsons or Reine Claudes here early this week. Cranberries are still meeting a light demand, but hold steady at $2.75 and $3 per crate, or $8.50 to $10.50 per barrel. Chestnuts show quite an advance over last week; now selling at $10 to $11 per bushel, which is fully $1.50 higher than last week.

Poultry

The market on live poultry shows a big decline from last week's prices. Trading in fowls has been rather limited, but the market rules steady on fine desirable sizes, with small and poor and ordinary stock weak. Spring chickens are in quite free supply and the market just about steady at the last decline. Fowls are now selling all the way from 22 to 25 cents, as to quality. Spring chickens not Leghorns range from 21 to 24 cents and Leghorns, 20 to 21 cents. Old roosters did not decline as much as fowls and chickens as their prices only dropped about one cent, selling from 19 to 20 cents as to quality. Ducks eased off about one cent. Young springers bring from 22 to 24 cents with old stock from 19 to 23 cents. Turkeys show no change. Supplies are light and best stock sells at 25 to 26 cents. Young guineas are in fair demand at 75 cents to $1 per pair with old moving slowly at 60 to 65 cents. Pigeons are unchanged at 20 to 25 cents per pair.

Dressed fowls continue firm and active at 29 to 32 cents, with smaller sizes from 28 to 29 cents. Chickens of desirable size and quality sell quickly at 28 to 30 cents for roasters and 33 to 36 cents for broilers. Turkeys rule dull and weak, most of the offerings being rather poor quality. Prices range from 23 to 25 cents. Ducks are in light supply and clean up promptly and the market is firm at 25 to 26 cents.

Eggs

Again there is no change to be noted in the egg market. Strictly fancy fresh laid eggs are scarce and sell quickly upon arrival, and usually at a premium. The medium grades and stock more or less unattractive is receiving very little attention from the buyers and there is some accumulation of this stock. Pennsylvania and other nearby firsts are quoted at 42 cents; current receipts, 41 cents; seconds, 37½ cents; western extra firsts, 42 cents; do., firsts, 41 cents; do., seconds, 37½ cents; southerns, 39 to 40 cents.

LANCASTER PRODUCE

Lancaster, Pa., Oct. 13, 1917.

The potato and corn harvests seriously affected the market today, many of the stands not being occupied. It was one of the smallest markets in many months. Prices were steady, but potatoes advanced to $1.45 and $1.50 a bushel.

Butter and Eggs.—Creamery butter, 50c lb; country butter, 48c. Eggs, 48c doz.

Vegetables and Fruits. — Tomatoes, 50c basket; 12@15c half peck; parsnips, 5c box; spinach, 5c half peck; new turnips, 15@20c half peck; potatoes, 15@22c half peck; $1.45@1.50 bushel; sweet potatoes, 30c half peck; cabbage, 2@8c; pickles, 20@35c per 100; eggplant, 5@10c each; cauliflower, 15@20c head; lettuce, 5@12c head; celery, 5@10c bunch; lima beans, 12@15c pint; corn, 25c dozen; watermelons, 10@30c each; peaches, 25c half peck; do., 60@75c basket; pears, 15c half peck; cantaloupes, 5@10c each; apples, 10@20c half peck.

Poultry.—Dressed chickens, old, $1.25@1.50; young, 75c@$1; live chickens, $1.50@2 per pair; old, 18c per lb.

Grain Market.—Wheat, $2 per bushel; new ear corn, $1.85; corn, $1.95 per bushel; rye, $1.65 per bushel; timothy hay, $21@22 per ton; mixed hay, $18@20; wheat straw, $11@12.

YORK PRODUCE MARKET

York, Pa., Oct. 15, 1917.

The attendance of farmers at the markets this week was small. Scarcity of labor keeps all available hands on the premises at all times. Even the women folks who often do the marketing are doing their bit and helping in the fields.

Eggs.—44@48c per dozen.

Butter.—Country, 44@48c lb; separator, 48@50c lb; milk, 10c quart.

Poultry.—Hens, 20@21c lb; dressed, 75c @$1.50 each.

Vegetables. — Potatoes, 12@18c ½-pk; $1.15@1.30 bu. Cabbage, 3@10c head. Lettuce, 3@5c head. Radishes, 4@5c bch. Beets, 5c bch. Onions, 8@10c box; 20@30c ½-pk. Lima beans, 20@24c qt. Soup beans, 35c quart. Celery, 5@8c stalk. Tomatoes, 8@10c box; 15@20c ½-pk. Turnips, 10@15c ½-pk. Corn, 25@30c doz. Eggplants, 3@8c each. Corn meal, 10@12c quart.

Fruits.—Apples, 10@25c ½-pk. Plums, 5@10c box. Peaches, 50c@$1 per basket. Pears, 8@10c box; 15c ½-pk. Cantaloupes, 2@6c each.

Retail Grain Market.—Wheat, $2.25; corn, $2.50; oats, 90c; rye, $1.50; bran, $2.10 per cwt; middlings, $3 per cwt.

Wholesale Grain Market.—Wheat, $2.07; corn, $2.25; oats, 65c; rye, $1.25; bran, $38 per ton; middlings, $58 per ton.

NEW YORK PRODUCE

New York City, Oct. 15, 1917.

Butter prices remain about as last week. Cheese is very quiet. The egg market remains steady and unchanged. Market on fancy apples remains firm. Altho potatoes are in good supply, prices have advanced and demand is good.

Butter.—Creamery, extras (92 score), per pound, 44½c; higher score, 45@45½c; thirds to firsts, 40¼@44½c; state dairy, 39@42½c; ladles, 37@41c.

Cheese. — Fresh colored specials, 25½c; white, 25½c; undergrades, 13@20½c.

Eggs. — Fresh gathered extras, 45@46c; extra firsts, 43@44c; nearby white, fine to fancy, 62@66c; ordinary to good, 50@60c; browns, 50@60c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 36@38c; old roosters, 21c; squabs, $2.00@5.50 per dozen. Spring ducks, per lb., 24@26c; turkeys, fresh killed, 33@38c.

Vegetables and Greens. — Beans, per bu. basket, $1@2.25. Beets, per bbl., $2.50@3.00. Onions, per 100-lb. bag, $2.25@3.75. Potatoes Jersey, $3.00@4.50 per bbl; state and western, $4.10@$6.00 per bbl. Carrots, $2@2.50 per bbl. Cucumbers, $1@2 bas; peppers, bbl., $2.50@4; tomatoes, Jersey, 50c@$2 per box.

Apples.—Wealthy, $3@6 bbl; Wolf River, $2.50@5; McIntosh, $3@7; Jonathan, $3@6.50; York Imperial, $2.50@4.75; Twenty Ounce, $2.50@5.50; King, $2.50@5.50; Baldwin, $2.50@4.50.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., Oct. 15, 1917.

The receipts of cattle for today's market were 247 cars, as compared with 273 cars last Monday, and 294 cars the corresponding Monday in 1916. Fully 50 cars that should have been here today were delayed in transit, otherwise, the day's supply would have been approximately 300 cars. Owing to freight conjestion on all railroad lines, the delivery of live stock is now running from 40 to 72 hours longer than the normal schedule from Chicago, and 24 hours longer than the normal schedule from Pittsburgh and Buffalo to Lancaster. Today's supply came from Virginia, 135 cars; Chicago, 53; Buffalo, 14; St. Paul, 14; Pittsburgh, 11; New York, 8; Maryland, 6; Pennsylvania, 5; Kansas City, 1.

All cattle, both for butchers and for farmers, cost higher in Western markets last week, and this fact made necessary stronger prices here today. The advance in cost justified an advance in the selling price, of 25 cents per cwt., and salesmen tried to lift the market to that extent, but their effort on some kinds was a total failure, and on other kinds, only partially a success. Good butcher cattle, steers and heifers sold a shade stronger, but common to fair killers sold barely steady.

The best butcher steers on sale came from Virginia, and the highest prices realized were 12 cents per lb. for a car of fat Virginias that weighed about 1,250 lbs. Another car of Virginias weighed 1,195, had a little better quality and sold at 12 cents per lb. A great many cars of Virginia butcher steers that had some kill and weighed 1,000 to 1,050 lbs. sold at $10.50 to $11. A class of steers weighing 900 lbs. that didn't carry much grease, sold at $10 to $10.50. One car that had very good quality, weighed 800 lbs. and sold at $9.50. A fair class of Virginia heifers, weighing 800 to 900 lbs., sold at 8 to 9 cents per lb.

There was a generous supply of a good kind of feeding steers, the most of which came from Virginia and no doubt their owners thought they ought to sell for beef, but low grade beef is plenty these days, because of the country-wide necessity of cleaning up pastures at this season of the year, and the result was they were worth more for feeders than for slaughtering purposes. Canadian feeders, however, "out-topped" all other kinds in price. One bunch of 16 head of Reds and Roans, dehorned, weighed 1,100 and the price was $12.50. Another was a bunch of Polled Angus that went to Northern Lancaster County at 12 cents per lb. The biggest sale of Canadians was a bunch of fancy yearlings, 51 head, that averaged 825 lbs. One-half of them were White Faces, and the other half Shorthorns, and nearly all horned cattle. The price was 11½ cents per lb. Another bunch of 35 head weighing 1,030 went to a Lebanon County farmer at 12 cents per lb. Another bunch of 33 head weighed 806 and sold at 10½ cents per lb. Another bunch of 20 head, weighed 850 and sold at $10.50. Purchases were made all the way down to 8 cents per pound with a very common kind at 6¾ to 7½ cents.

The supply of hogs was large enough to meet all the demands. Good western hogs sold at $19.25 to $19.50. Lancaster County and Southern hogs sold at about 19 cents per lb. When some of us were boys and hogs were selling at 5 to 6 cents per lb., we used to listen with wonder to our elders telling of a time when pork on the hoof was easily obtainable at 3 to 3½ cents per lb. A lot of us find it no effort to recall the time when Lancaster County ham and bacon, cured with "hickory smoke" and "loving hands", could be gotten at the Corner Grocery or on the Curb Market at 18 to 20 cents a pound.

The prospects of remuneration to the farmer in beef production the coming winter are good, but the prospects of profit from pork production are better. The hog holds an important place in our domestic economy. No satisfactory substitute for pork has been found. Because of ability to handle it in all climates and under all temperatures, when salted and smoked, pork is an all-important army ration, and when pork is stricken off the soldier's diet, the efficiency of the soldier is lessened. Again, those engaged in peaceful occupations can exist for a long time on a meatless diet, but their work won't have the same "punch" in it, and experience has demonstrated that hungry people are more dangerous to their rulers than to their enemies. If this war should continue for any great length of time, it is possible that the question of food will be of greater importance than the manufacture of munitions. Conditions abroad preclude any possibility of increasing meat, mutton or pork production in those countries. First, their meat-making animals have been destroyed, and even were that not so, devastation of farm lands has been so general that the shortage in feed stuffs is acute, the meat-making staples, wheat, corn, barley, rye, and oats are all needed for human consumption.

I appreciate that it has become very popular these days, particularly among those who know nothing about farm production, to advise the farmer what to do. I hold no license to be a Farm Adviser, but I am well pleased with the patriotic enthusiasm being displayed by eastern Pennsylvania farmers at the present time in taking on large supplies of thin steers to absorb their corn and rough feed and make meat this winter. May I be bold enough to suggest that it looks to me like a dead sure win, to the farmer, who, in common with his effort to produce beef, will take on as many shoats as he can possibly house and feed, and make hams and bacon and spare ribs and lard. The sausage mills and puddin' grinders are yearning for work enough to tax their capacity.

NEW YORK HAY AND GRAIN

New York City, Oct. 15, 1917.

Feed.—Prices on Saturday for both western and city grades were without material change. The position of the market, however, remained unsettled and it was evident that concessions could be obtained on any fair buying orders. Dealers here reported some increase in spot stocks during the past week with no apparent interest displayed by consumers. This is not out of the ordinary, for buyers, as a rule, are bound to hold off with any downward trend of prices. Western mills are offering futures at lower levels and the mill output is gaining as a result of the larger receipts of wheat. City feed continues dull with trade buying limited to absolute needs. Quoted: Western spring in 100-pound sacks, $35; standard middling, $41; flour in 100-pound sacks, $51 to arrive; red dog to arrive in 100-pound sacks, $61.50; city feed bulk bran, $35; 100-pound sacks, $36; heavy feed, 100-pound sacks, $41; red dog, $65.50; flour, $64. Linseed oil meal, $54 per ton.

Hay and Straw.—Market is firm thruout. Offerings are very light at most harbor points, tho there has been a surplus in Brooklyn, which point has been more in buyers' favor than at other harbor stations. Rye straw barely steady.

Wheat.—No. 2 red, $2.25.

Corn.—No. 2 yellow, $2.03.

Oats.—No. 2 white, 66½ cents.

Rye.—$1.89.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Oct. 15, 1917.

Baled Hay and Straw.—Receipts, 396 tons of hay and 1 car of straw. The limited offerings of desirable grades of hay were kept well cleaned up at top prices. Straw ruled firm under light offerings and a fair demand.

Timothy hay, according to location, No. 1 large bales, $26@26.50; No. 1 small bales, $26@26.50; No. 2, $24.50@25; No. 3, $22@23. Clover mixed hay, light mixed, $24.50@25; No. 1, do., $23@23.50; No. 2, do., $21@22.

Straw.—No. 1 straight rye, $16@16.50; No. 2, do., $15@15.50; No. 1 tangled rye, $15@15.50; No. 2 do., $14@14.50; No. 1 wheat straw, $13@13.50; No. 2, do., $12@12.50; No. 1 oat straw, $13@13.50; No. 2, do., $12@12.50.

Bran.—The market ruled steady under moderate offerings, but trade was quiet. Quotations (car lots, including sacks):

Soft winter bran, in 100-lb. sacks, per ton, $37; spring bran, in 100-lb. sacks, per ton, $35@35.50.

Wheat.—No. 2 red, $2.24; No. 3 red, $2.21.

Corn.—No. 2 yellow, $2.10@2.15.

Oats.—No. 2 white, new, 65½@66c.

NEW YORK MILK MARKET

New York City, Oct. 15, 1917

There is little change to report since last week. Demand remains subnormal. Supply is more than can be used, by many thousands of cans. Investigations of the increased cost continue on their way with no definite conclusions reached. Loton Horton, president of the Sheffield Farms Company and I. Elkins Nathan, secretary of the Milk Dealers' Conference, have been on the witness stand before the Mayor's Committee representing the distributors.

The League rates for Grade B (barn score 55) to the producer in the 26-cent zone are $3.10 a cwt. for 3 percent milk; $3.34, or 7.1 cents a quart for 3.6 percent milk; and $3.50 for 4 percent milk. Receipts of milk and cream for the week ending October 13 were as follows:

Railroad	Milk	Cream
Erie	40,310	1,242
Susquehanna	4,254	44
West Shore	9,710	930
Lackawanna	60,672	1,610
N. Y. Central (long haul) including Rutland	113,476	2,495
Ontario	32,256	[illegible]
Lehigh Valley	34,172	637
New Haven	2,824	
Pennsylvania	9,610	290
Other sources	6,260	190
Totals	313,544	[illegible]
Same week last year (first week of delivery after the 1916 strike)	147,607	[illegible]

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Oct. 15, 1917.

Butter.—Offerings were light and the market ruled firm, but wholesale trade, as usual on the last day of the week, was quiet. Fancy solid-packed creamery brought outside rates with little difficulty, while the undergrades were well cleaned up at inside figures. Prints of fine quality were well cleaned up and firm, but unattractive stock sold slowly and ruled weak.

Western, fresh, solid-packed creamery fancy specials, 46½c; extra, 44½@45½c; extra firsts, 44c; firsts, 43½c; seconds, 42@42½c; nearby prints, fancy, 48c; average extras, 46@47c; firsts, 44@45c; seconds, 42@43c; special fancy brands of prints were jobbing at 51@54c.

Cheese.—The market was quiet but steady under moderate offerings.

New York, full cream, fancy, June, 26½c; specials higher, do., fresh made, best, 25½@26c; do., choice, 25@25½c; New York full cream, fresh made, fair to good, 24@24½c.

ELGIN BUTTER MARKET

Elgin, Ill., Oct. 13, 1917.

Butter.—Twenty-five tubs sold on Elgin board today at 43½ cents per pound. No other offers received.

CHICAGO HORSE MARKET

Chicago, Ill., Oct. 15, 1917

Horses were marketed sparingly last week and sold at full prices, animation being mainly in "warriors", with purchases for the British army at $180@205 and a few heavy artillery horses, weighing 1,500 lbs., selling up to $220. Most of the horses bought for the United States army cost $180. Horses sold anywhere from $60 to $100 for the commoner ones up to $165@285 for drafters.

FARM LABOR CONFERENCE

Many farm laborers fail to secure exemption from the draft because of errors in applications and in affidavits filed. This was one of the most significant statements made by Dr. Hoskins, member of the District Exemption Board representing Lancaster, Chester, Delaware and Montgomery Counties, at conference of farmers at West Chester, October 8. About 200 farmers of Chester County had gathered for the conference to discuss the farm labor situation and develop, if possible, plans for bringing national attention to the seriousness of the farm labor situation. The meeting was called at the suggestion of members of Brandywine Grange.

State Master John A. McSparran quoted such figures as are available to show the present shortage of farm labor. New York State is the only state that has taken a census of conditions and is in position to furnish reliable data. In that state, figures taken last spring indicated that 101,000 food producers had left the farms of that state during the previous year. Of this number 43,000 were farm boys, 42,000 were farm girls and 16,000 were farm laborers. The total represented a loss of one producer from every two farms of the state and this was last year. Because of high wages in industrial plants and the operation of the draft, the loss to farms is unquestionably higher this year. All industries are crying for labor, but the bulk of this demand is to meet the growth of business since the war started. Agriculture was the only great industry that was under-manned at the opening of the war, and suffers most from the drain being put on by the draft and other calls.

Mr. McSparran told of the appeal made to the President by the Federal Board of Farm Organizations and said that while no definite action was promised, Secretary of War Baker has since announced that he is having a careful census of each cantonment taken and expects to have complete figures indicating effect upon agriculture by December 1. Mr. McSparran suggested that farmers prepare and present resolutions or memorial setting forth the actual labor conditions in their communities; appeal for parole of drafted farm laborers, not exemption, and that such parole be effective only so long as the laborer stays in productive work.

Dr. Hoskins outlined the work of the district exemption boards and told upon what grounds exemptions were made. He declared that the Board of which he is a member gave serious consideration to the needs of agriculture, and if the applicant could show that he was needed on the farm, and that farm production would suffer if he were called, his appeal received most favorable consideration. Many such appeals were incorrectly drawn, however, and did not give the information needed, in which cases full justice could not be done to applicants.

After a full discussion of conditions and needs of Chester County, a committee was appointed to develop a local board in each township to scrutinize applications for exemptions and supervise appeals of worthy applicants. A committee was also appointed to formulate a set of resolutions to be forwarded to the Federal Board of Farm Organizations.

These resolutions were presented by the committee and adopted:

"Whereas, It is the desire of the farmers of Chester County to do their full share to help win the war and whereas; their work is the work of food production, which is a complex, technical industry and

Whereas, There is a shortage of skilled farm labor greater than in any other industry, and

Whereas, Other industries are taking from the farms large numbers of skilled farm labor, therefore be it

Resolved, That we require the immediate parole of all bona fide skilled farm laborers and farm operators, and be it further

Resolved, That it is essential to a sufficient food production that the government adopt the practice of exempting by priority and recognize that agriculture is the primary, basic industry."

SOME FARM LABOR EXPERIENCES

Following are two more letters commenting on the need of farm labor and reciting some experiences of the summer:

Farmers here are talking strongly of not farming very heavy next year because of the high cost of production. I have not had a man all summer who could do a fair job with horse, plow or cultivator. Still they want $35 to $40 per month and board, or $2.50 per day. And they demand a nine-hour day. There is not a man that can earn that wage at truck farming today. In other words, if you were to let a man farm for himself and have all he raises, pay his own bills, when fall comes he will not have taken in $2.50 per day over the cost of production, including all overhead expenses. The prices we receive for our produce, while fair compared with other years, are not high enough to permit the farmer to pay the enormous prices for what he has to buy. It looks now as tho fertilizers will be even higher next year. If so, we may be sure of a less acreage and smaller yields.—C. C. Hulsart, Monmouth Co., N. J.

The following, while a lot more cheerful, tells about the same story:

We are having a great time with our farm help. Last spring, my brother who is a Reverend and a Doctor and also an editor (wondrous combination) suggested that we could help out by giving asylum for the summer to an ex-freshman who had a liver, or who did not have a liver (I am not certain which) and who had studied too hard or had not studied hard enough. (Again I am not certain which.) At any rate he had not been able to pass his examinations and was somewhat of a physical wreck, and in need of salvaging. He was to work for his keep.

He became a great success. He ate a lot. He slept a lot more, and he washed in the creek. Among the chores he undertook was the gathering of the eggs twice a day. Of this he made a function, almost a rite. When he found a broody hen he first stroked her until she smoothed her ruffled feathers; then he carefully lifted her to another nest, gathered the eggs that might be there, and as carefully returned her to her former comfortable position. At first he carefully covered one hand with his hat to receive the indignant pecks of those he disturbed. He later improved on this by adopting a glove for his right hand. He was a bright boy.

A neighbor told me of another college man who joined the "army of the commissary" (resounding name, whatever it means). He was taking a post graduate course at the University of ——— and had gone to the farm to recuperate. He recuperated strictly as per schedule—his own schedule. He worked when he felt like it, how he pleased and at what he felt like doing. About 3 P. M. he went to the house, bathed, manicured his nails, dressed in white flannels and occupied the hammock or took a recuperative walk. The farm he afflicted survived, and thus we are again taught that virtue is its own reward.—H. M., Northampton Co., Pa.

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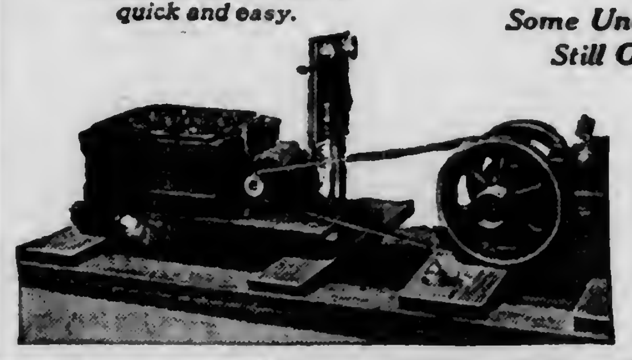

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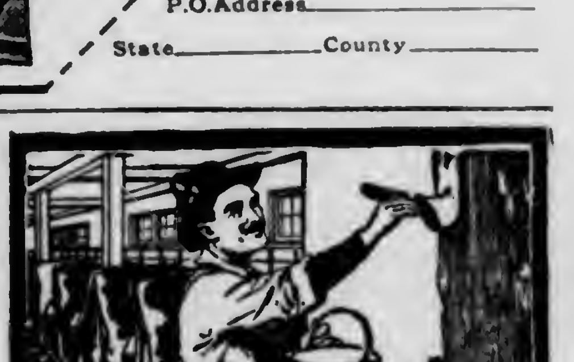

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NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

CHAPTER III

The Spanish Sinks

From a car window at Sleepy Cat may be seen, stretching far down into the southwest, a chain of towering peaks usually snow-clad, that dominate the desert in every direction for almost a hundred miles. In two extended groups, separated by a narrow but well-defined break, they constitute a magnificent rampart, named by Spaniards the Superstition Mountains, and they stretch beyond the horizon to the south, along the vast depression known locally as the Spanish Sinks. The break on the eastern side of the chain comes about twenty miles southwest of Sleepy Cat, and is marked on the north by the most striking and in some respects most majestic peak in the range—Music Mountain; the break itself has taken the name of its earliest white settlers and is called Morgan's Gap. No railroad has ever yet penetrated this southern country, despite the fact that rich mines have been opened along these mountains, and are still being opened; but it lies today in much of the condition of primitive savagery and lawlessness, as the word is conventionally accepted, that obtained when the first rush was made for the Thief River gold-fields.

It is not to be understood that law is an unknown equation between Calabasas and Thief River, or even between Calabasas and Sleepy Cat. But as statute law it suffers so many infractions as to be hardly recognizable in the ordinary sense. Business is done in this country; but business must halt everywhere with its means of communication, and in the Music Mountain country it still rests on the facilities of a stage line. The stage line is a big and vigorous affair, a perfectly organized railroad adjunct with the best horses, the best wagons, and the best freighting outfits that money can supply.

But this is by no means, in its civilizing effect, a railroad. A railroad drives lawlessness before it—the Music Mountain country still leans on stage-line law. The bullion wagons still travel the difficult roads. They look for safety to their armed horsemen: the four- and six-horse stages look to the armed guard; the wayfarer must look to his horse—and it should be a good one; the mountain rancher to his rifle, the cattle thief to the moonless night, the bandit to his wits, the gunman to his holster. These include practically all of the people that travel the Spanish Sinks, except the Morgans and the Mormons. The Mormons looked to the Morgans for safety; the Morgans to themselves.

For many a year the Morgans have been almost overlords of the Music Mountain country. They own, or have laid claim to, an extended territory in the mountains, a Spanish grant. One of the first mountain Morgans married a Spanish girl, and during the early days, when the Morgans were not fighting some one out of court, they were fighting some one in court on their endless and involved titles.

But whether they won domain in lawsuit or lost it, one pearl of their holdings they never submitted to the jurisdiction of any tribunal other than their own arms. Morgan's Gap opens south of Music Mountain, less than ten miles west of Calabasas. It is a narrow valley where valleys are more precious than water—for the mountain valley means water—and this in a country where water is much more precious than life. And some of the best of this land at the foot of Music Mountain was the maternal inheritance of Nan Morgan.

At Calabasas the Thief River stage line maintains completely equipped relay barns. They are over twenty miles from Sleepy Cat, but nearly fifty the other way from Thief River. The unequal division is not due to what was desirable when the route was laid out, but to the limit of what man could do in the never-conquered desert. This supplies at Calabasas a spring, to tempt the unwary traveller still farther within its clutches. A large number of horses are kept at Calabasas, and the barn crews are quartered there in the company barrack. Along the low ridges and in the shallow depressions about Calabasas Spring there are a very few widely separated shacks, once built by freighters and occupied by squatter outlaws to be within reach of water. This gives the vicinity something of the appearance of a poorly sustained prairie-dog town. And except these shacks, there is nothing between Calabasas, Thief River, and the mountains except sunshine and alkali. I say nothing, meaning especially nothing in the way of a human habitation.

But there is a queer inn at Calabasas. A pioneer Thief River prospector, mad with thirst, fought his way across the Sinks to the Calabasas Spring, and wandered thence one day into Sleepy Cat. In a delirium of gratitude he ordered built at Calabasas what he termed a hotel, to provide at that forbidden oasis for the luxurious comfort of future thirst-mad wanderers. It was built of lumber hauled a thousand miles, and equipped with luxuries brought three thousand—a fearsome, rambling structure, big enough for all the prospectors in the Rocky Mountains.

Having built this monument, creditable to his good-will rather than his good sense, the unfortunate man went really mad, and had the sorry distinction of being the first person to be put in the insane asylum at Bear Dance. It had never occurred to him that any one had any title to, or that any madder man would lay claim to, so accursed a spot as Calabasas. But old Duke Morgan announced in due time that the hotel was built on Morgan land and belonged to the Morgans. Nobody outside a madhouse could be found to dispute with Duke Morgan a title to land within ten miles of Morgan's Gap, and none but a lunatic would attempt to run a hotel at Calabasas, anyway. However, a solution of the difficulty was found: Duke's colorable title gave the cue to his retainers in the Gap, and in time they carted away piecemeal most of the main building, leaving for years the kitchen and the servants' quarters adjoining it to owls, lizards, scorpions, and spiders.

Meantime, to tap the fast-developing gold fields, the freight route and stages had been put in, and the barns built at Calabasas. A need naturally developed for at least one feature of a hotel—a barroom. A newer lunatic answered the call of civilization—a man only mildly insane stocked the kitchen range with liquors, and fitted up in a crude way the ice-boxes—where there never was ice—serving pantries, and other odd nooks for sleeping quarters. Here the thirsty stage passenger, little suspecting the origin of the facilities offered him for a drink, may choose strong drink instead of water—or rather, he is restricted to strong drink where water might once have been had—the spring being piped now half a mile to the barns for the horses. And this shack, as it is locally called, run by a Mexican, is still the inn at Calabasas. And it continues to contribute thru its stirring annals, to the tragic history of the continental divide.

It need hardly be said that Duke Morgan laid claim also to the Calabasas Spring. But on this the company, being a corporation, fought him. And after somewhat less of argument and somewhat more of siege and shooting, a compromise was reached whereby the company bought annually at an exorbitant price all of Duke, Satterlee, and Vance Morgan's hay, and as the Morgans had small rivers of water in the mountains, and never, except when crowded, drank water, a modus vivendi was arranged between the claimants. The only sufferer thru this was the Mexican publican, who found every Morgan his landlord, and demanding from him tithes over the bar. But force is usually met with cunning, and such Morgans as would not pay in advance at Calabasas, when thirsty, often found the half-mad publican out of goods.

The Calabasas Inn stood in one of the loneliest canyons of the whole seventy miles between Sleepy Cat and Thief River: it looked in its depletion to be what it was, a sombre, mysterious, sun, wind, and alkali beaten pile, around which no one by any chance ever saw a sign of life. It was a ruin like those pretentious deserted structures sometimes seen in frontier towns—relics of the wide-open days, which stand afterward, stark and sombre, to serve as bat's nests or blind-pigs. The inn at Calabasas looked its part—a haunt of rustlers, a haven of nameless men, a refuge of road-agents.

The very first time de Spain made an inspection trip over the stage line with Lefever he was conscious of the sinister air of this lonely building. He and Lefever had ridden down from the barn, while their horses were being changed, to look at the place. De Spain wanted to look over everything connected in any way, however remotely, with the operation of his wagons, and this joint, Lefever had told him, was where the freighters and drivers were not infrequently robbed of their money. It was here that one of their own men, Bill McCarty, once "scratched a man's neck" with a knife—which, Bill explained, he just "happened" to have in his hand—for cheating at cards. Lefever pointed out the unlucky gambler's grave as he and de Spain rode into the canyon toward the inn.

Not a sign of any sort was displayed about the habitation. No man was invited to enter, no man warned to keep out, none was anywhere in sight. The stage men dismounted, threw their lines, pushed open the front door of the house and entered a room of perhaps sixteen by twenty feet. It had been the original barroom. A long, high, elaborately carved mahogany bar, as much out of keeping as it possibly could be with its surroundings, stretched across the farther side of the room. The left end, as they faced the bar, was brought around to escape a small window opening on a court or patio to the rear of the room. Back of the bar itself, about midway, a low door in the bare wall gave entrance to a rear room. Aside from this big, queer-looking piece of mahogany, the low window at the left end of it, and the low door at the back, the room presented nothing but walls. Two windows flanking the front door helped to light it, but not a mirror, picture, chair, table, bottle, or glass was to be seen. De Spain covered every feature of the interior at a glance. "Quiet around here, John," he remarked casually.

"This is the quietest place in the Rocky Mountains most of the time. But when it is noisy, believe me, it is noisy. Look at the bullet-holes in the walls."

"The old story," remarked de Spain, inspecting with mild-mannered interest the punctured plastering, "they always shoot high."

He walked over to the left end of the bar, noting the hard usage shown by the ornate mahogany, and spreading his hands wide open, palms down, on the face of it, glanced at the low window on his left, opening on the gravelled patio. He peered, in the semi-darkness, at the battered door behind the bar.

"Henry," observed Lefever, "if you are looking for a drink, it would only be fair, as well as politic, to call the Mexican."

"Thank you, John, I'm not looking for one. And I know you don't drink."

"You want to know, then, where the Mexican keeps his gun?" hazarded Lefever.

"Not especially. I just want to know—"

"Everything."

"What's behind the bar. That's natural, isn't it?"

Very complete fittings and compartments told of the labor spent in preparing this inner side for the convenience of the bartender and the requirements of exacting patrons, but nothing in the way of equipment, not so much as a pewter spoon, lay anywhere visible.

De Spain, turning, looked all around the room again. "You wouldn't think," he said slowly, "from looking at the place there was a road-agent within a thousand miles."

"You wouldn't think, from riding thru the Superstition Mountains, there was a lion within a thousand miles. I've hunted them for eleven years, and I never saw one except when the dogs drove 'em out; but for eleven years they saw me. If we haven't been seen coming in here by some of this Calabasas bunch, I miss my guess," declared Lefever cheerfully.

The batten door behind the bar now began to open slowly and noiselessly. Lefever peered thru it. "Come in, Pedro," he cried reassuringly, "come in, man. This is no officer, no revenue agent looking for your license. Meet a friend, Pedro," he continued encouragingly, as the swarthy publican, low browed and sullen, emerged very deliberately from the inner darkness into the obscurity of the barroom, and bent his one good eye searchingly on de Spain. "This," Lefever's left hand lay familiarly on the back of de Spain's shoulder, "is our new manager, Mr. Henry de Spain. Henry, shake hands with Mexico."

This invitation to shake hands seemed an empty formality. De Spain never shook hands with anybody; at least if he did so, he extended, thru habit long inured, his left hand, with an excuse for the soreness of his right. Pedro did not even bat his remaining eye at the invitation. The situation, as Lefever facetiously remarked, remained about where it was before he spoke,

and nothing daunted, he asked de Spain what he would drink. De Spain sidestepped again by asking for a cigar. Lefever, professing he would not drink alone, called for cigarettes. While Pedro produced them, from nowhere apparently, as a conjurer picks cards out of the air, the sound of galloping horses came thru the open door. A moment later three men walked, single file, into the room. De Spain stood at the left end of the bar, and Lefever introduced him to Gale Morgan, to David Sassoon, and to Sassoon's crony, Deaf Sandusky, as the new stage-line manager. The later arrivals lined up before the bar, Sandusky next to Lefever and de Spain, so he could hear what was said. Pedro from his den produced two queer-looking bottles and a supply of glasses.

"De Spain," Gale Morgan began bluntly, "one of our men was put off a stage of yours last week by Frank Elpaso." He spoke witout any preliminary compliments, and his heavy voice was bellicose.

De Spain, regarding him undisturbed, answered after a little pause, "Elpaso told me he put a man off his stage last week for fighting."

"No," contradicted Morgan loudly, "not for fighting. Elpaso was drunk."

"What's the name of the man Elpaso put off, John?" asked de Spain, looking at Lefever.

Morgan hooked his thumb toward the man standing at his side. "Here's the man right here, Dave Sassoon."

Sassoon never looked any man in the face when the man looked at him, except by implication; it was almost impossible, without surprising him, to catch his eyes with your eyes. He seemed now to regard de Spain keenly, as the latter, still attending to Morgan's statement, replied, "Elpaso tells a pretty straight story."

"Elpaso couldn't tell a straight story if he tried," interjected Sassoon.

"I have the statement of three other passengers; they confirm Elpaso. According to them, Sassoon—" de Spain looked straight at the accused, "was drunk and abusive, and kept trying to put some of the other passengers off. Finally he put his feet in the lap of Pumperwasser, our tank and windmill man, and Pumperwasser hit him."

Morgan, stepping back from the bar, waved his hand with an air of finality toward his inoffensive companion. "Here is Sassoon, right here—he can tell the whole story."

"Those fellows were miners," muttered Sassoon. His utterance was broken, but he spoke fast. "They'll side with the guards every time against a cattleman."

"There's only one fair thing to do, de Spain," declared Morgan. He looked severely at de Spain. "Discharge Elpaso."

De Spain, his hands resting on the bar, drew one foot slowly back. "Not on the showing I have now," he said. "One of the passengers who joined in the statement is Jeffries, the railroad superintendent at Sleepy Cat."

"Expect a railroad superintendent to tell the truth about a Calabasas man?" demanded Sassoon.

"I should expect him at least to be sober," retorted de Spain.

"Sassoon," interposed Morgan belligerently, "is a man whose word can always be depended on."

"To convey his meaning," intervened Lefever cryptically. "Of course, I know," he asserted, earnest to the point of vehemence. "Every one in Calabasas has the highest respect for Sassoon. This is understood. And," he added with as much impressiveness as if he were talking sense, "everybody in Calabasas would be sorry to see Sassoon put off a stage. But Sassoon is off; that is the situation. We are sorry. If it occurs again—"

"What do you mean?" thundered Morgan, resenting the interference. "De Spain is the manager, isn't he? What we want to know is, what are you going to do about it?" he demanded, addressing de Spain again.

"There is nothing more to be done," returned de Spain composedly. "I've already told Elpaso if Sassoon starts another fight on a stage to put him off again."

Morgan's fist came down on the bar. "Look here, de Spain! You come from Medicine Bend, don't you? Well, you can't bully Music Mountain men — understand that."

"Any time you have a real grievance, Morgan, I'll be glad to consider it," said de Spain. "When one of your men is drunk and quarrelsome he will be put off like any other disturber. That we can't avoid. Public stages can't be run any other way."

"All right," retorted Morgan. "If you take that tack for your new management, we'll see how you get along running stages down in this country."

"We will run them peaceably, just as long we can," smiled de Spain. "We will get on with everybody that gives us a chance."

Morgan pointed a finger at him. "I give you a chance, de Spain, right now. Will you discharge Elpaso?"

"No."

Morgan almost caught his breath at the refusal. But de Spain could be extremely blunt, and in the parting shots between the two he gave no ground.

"Jeffries put me here to stop this kind of rowdyism on the stages," he said to Lefever on their way back to the barn. "This is a good time to begin. And Sassoon and Gale Morgan are good men to begin with," he added.

As the horses of the two men emerged from the canyon they saw a slender horsewoman riding in toward the barn from Music Mountain trail. She stopped in front of McAlpin, the barn boss, who stood outside the office door. McAlpin, the old Medicine Bend barnman, had been promoted from Sleepy Cat by the new manager. De Spain recognized the roan pony, but, aside from that, a glance at the figure of the rider, as she sat with her back to him, was enough to assure him of Nan Morgan. He spurred ahead fast enough to overhear a request she was making of McAlpin to mail a letter for her. She also asked McAlpin, just as de Spain drew up, whether the down stage had passed. McAlpin told her it had. De Spain, touching his hat, spoke, "I am going right up to Sleepy Cat. I'll mail your letter if you wish."

She looked at him in some surprise, and then glanced toward Lefever, who now rode up. De Spain was holding out his hand for the letter. His eyes met Nan's, and each felt the moment was a sort of challenge. De Spain, a little self-conscious under her inspection, was aware only of her rather fearless eyes and the dark hair under her fawn cowboy hat.

"Thank you," she responded evenly. "If the stage is gone I will hold it to add something." So saying, she tucked the letter inside her blouse and spoke to her pony, which turned leisurely down the road.

"I'm trying to get acquainted with your country today," returned de Spain, managing with his knee to keep his own horse moving alongside Nan as she edged away.

She seemed disinclined to answer, but the silence and the awkwardness of his presence drew at length a dry disclaimer, "This is not my country."

"I understood," exclaimed de Spain, following his doubtful advantage, "you lived out this way."

"I live near Music Mountain," returned Nan somewhat ungraciously, using her own skill at the same time to walk her horse away from her unwelcome companion.

"I've heard of Music Mountain," continued de Spain, urging his lagging steed. "I've often wanted to get over there to hunt."

Nan, without speaking, ruthlessly widened the distance between the two. De Spain unobtrusively spurred his steed to greater activity. "You must have a great deal of game around you. Do you hunt?" he asked.

He knew she was famed as a huntress, but he could make no headway whatever against her studied reserve. He watched her hands, graceful even in heavy gloves; he noticed the neckpiece of her tan blouse, and liked the brown throat and the chin set so resolutely against him. He surmised that she perhaps felt some contempt for him because she had outshot him, and he continued to ask about game, hoping for a chance in some far-off time to redeem his marksmanship before her and giving her every possible chance to invite him to try the hunting around Music Mountain.

She was deaf to the broadest hints; and when at length she excused herself and turned her pony from the Sleepy Cat road into the Morgan Gap trail, de Spain had been defeated in every attempt to arouse the slightest interest in anything he had said. But, watching with regret, at the parting, the trim lines of her figure as she dashed away on the desert trail, seated as if a part of her spirited horse, he felt only a fast-rising resolution to attempt again to break thru her stubborn reticence and know her better.

CHAPTER IV

First Blood at Calabasas

Nothing more than de Spain's announcement that he would sustain his stage-guards was necessary to arouse a violent resentment at Calabasas and among the Morgan following. Some of the numerous disaffected were baiting the stages most of the time. They bullied the guards, fought the passengers, and fomented discontent among the drivers. In all Thief River disturbances, whether a raid on cattlemen, a stage hold-up, a gun-fight, or a tedious war of words, the Calabasas men, sometimes apparently for the mere maintaining of prestige, appeared to take leading roles. After de Spain's declaration, the grievance against Elpaso was made a general one along the line. His stage was singled out and ridden at times both by Sandusky and Logan—the really dangerous men of the Spanish Sinks—and by Gale Morgan and Sassoon to stir up trouble.

But old Frank Elpaso was far from being a fool. A fight with any one of these men meant that somebody would be killed, and no one could tell just who, Elpaso shrewdly reckoned, until the roll-call at the end of it. He therefore met truculence with diplomacy, treatening looks with flattery, and hard words with a long story. Moreover, all Calabasas knew that Elpaso, if he had to, would fight, and that the eccentric guard was not actually to be cornered with impunity. Even Logan, who, like Sandusky, was known to be without fear and without mercy, felt at least a respect for Elpaso's shortened shotgun, and stopped this side of actual hostilities with him. When the June clean-up of the No. 2 Thief River mine came thru—one hundred and six thousand dollars in gold bullion under double guard—and a Calabasas contingent of night-riders tried to stop the treasure, rumor along the Sinks had it that Elpaso's slugs, delivered at the right moment, were responsible for Deaf Sandusky's long illness at Bear Dance, and the failure of the subsequent masked attack on the up stage.

Sassoon, however, owing to the indignity now put upon him, also nourished a particular grievance against the meditative guard, and his was one not tempered either by prudence or calculation. His chance came one night when Elpaso had unwisely allowed himself to be drawn into a card game at Calabasas Inn. Elpaso was notoriously a stickler for a square deal at cards. He was apparently the only man at Calabasas that hoped for such a thing, and certainly the only one so rash as to fight for it—yet he always did. A dispute on this occasion fonnd him without a friend in the room. Sassoon reached for him with a knife.

McAlpin was the first to get the news at the barn. He gave first aid to the helpless guard, and, without dreaming he could be got to a surgeon alive, rushed him in a light wagon to the hospital at Sleepy Cat, where it was said that he must have more lives than a wildcat. Sassoon, not caring to brave de Spain's anger in town, went temporarily into hiding. A second surgeon was brought from Medicine Bend, and heroic efforts were put forth to nurse again into life the feeble spark the assassin had left in the unlucky guard.

Word of this cutting reached de Spain at Thief River. He started for Calabasas, learned there during a brief stop what he could—which was, of course, next to nothing—of the affray, and posted on to Sleepy Cat.

A conference was held in Jeffries' office. De Spain, Lefever, and some of the division staff discussed the situation raised by the affair. De Spain was instructed to see that Sassoon was brought in and made an example of for the benefit of his Calabasas friends. Accordingly, while the guard's life hung in the balance, the sheriff, Jim Druel, was despatched after Sassoon. A great deal of inquiry, much riding, and a lot of talk on Druel's part accomplished nothing.

Lefever spoiled with impatience to get after Sassoon. "The only way we'll ever get one of that gang is to go for him ourselves," said he. The sheriff's campaign did collapse. Sassoon could not be found altho rumor was notorious that he continued to haunt Calabasas. Lefever's irritation grew. "Never mind, John," counselled de Spain, "forget about wanting him. Sometime one of us will stumble on him, and when we do we'll shackle him." The precaution was taken, meantime, to secure a warrant for the missing man, together with authority for either of the two to serve. Elpaso, in the end, justified his old reputation by making a recovery—haltingly, it is true, and with perilous intervals of sinking, but a recovery.

It was while he still lay in the hospital and hope was very low that de Spain and Lefever rode, one hot morning, into Calabasas and were told by McAlpin that Sassoon had been seen within five minutes at the inn. To Lefever the news was like a bubbling spring to a thirsty man. His face beamed, he tightened his belt, shook out his gun, and looked with benevolent interest on de Spain, who stood pondering. "If you will stay right here, Henry," he averred convincingly, "I will go over and get Sassoon."

The chief stage-guard, Bob Scott, the Indian, was in the barn. He smiled at Lefever's enthusiasm. "Sassoon," said he, "is slippery."

"You'd better let us go along and see you do it," suggested de Spain, who with the business in hand grew thoughtful.

(To be continued.)

CONSERVATION. Conserve time, money and your horse's strength by using

RED TIP CALKS

They will enable your horse to travel on slippery, icy roads and streets in absolute safety. They can be adjusted in a few minutes and make you ready for the road any time—day or night—eliminating danger and delay.

NEVERSLIP CALKS always have Red Tips. NEVERSLIP SHOES always have Red Heels.

Get them from your horseshoer now. Booklet D will be sent free on request.

THE NEVERSLIP WORKS, New Brunswick, N.J.

Get Cash out of your OLD BAGS

You'll be surprised how much money we will pay you for your old bags, torn or sound—any quantity. Don't let them lie around and rot when you can turn them into money.

WE PAY THE FREIGHT

and we mail check as soon as shipment is received. Take advantage of present high prices—write today for price-list and shipping instructions. Largest direct buyers of bags in the world. References—Citizens Bank of Buffalo, Dunn or Bradstreet.

IROQUOIS BAG CO.
385 Howard St., Buffalo, N. Y.

Hogs Thrive on Tankage

Tankage builds big frames to carry fattening. Experiment station reports show that tankage is the cheapest and the best feed for hogs and growing pigs.

Martin's Abattoir Tankage

is carefully sterilized, especially prepared and ready to feed. It produces money makers for you. Buy direct from manufacturer and save money. Prices on request.

D. B. MARTIN COMPANY,
30th & MARKET STS., PHILA.

The Best of Tankage

should be fed to your hogs. Don't take a chance and feed them poor low-grade material. Be sure of your tankage and protect your stock by using

Ideal Digester Tankage

Made from the best of meat scrap, carefully sterilized. If you are not satisfied with results, we will return your money. Order now while we can supply you.

Prices. Feeding Directions, etc., free on request.

IDEAL MEAT SCRAPS TRADE MARK

We also make "Ideal Meat Scraps" best for increased egg production in winter. Write for prices, etc.

IDEAL RENDERING CO.
NORTH WALES, PA.

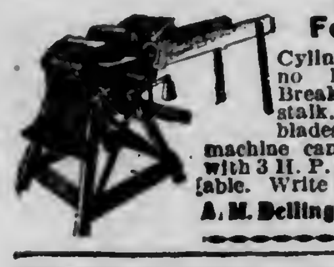
Turn Your Bags Into Dollars

Get those old bags out of the barn and turn them into money. We pay highest prices for torn or sound bags and buy any quantity. We also pay the freight.

Quick returns guaranteed. You take no risk in dealing with us.

We are an old established reliable house. Before you sell get our prices. Write now.

Burnett Bag & Burlap Co.
Brooklyn, Maryland.



PEERLESS Fodder Shredder

Cylinder type, blunt teeth, no knives to sharpen. Breaks up heavy part of stalk. Does not pulverize blades or tops. 14 inch machine can be run successfully with 3 H. P. engine. Price reasonable. Write for catalog.

A. M. Bellinger, Lancaster, Pa.

Stock Yard HOG FOOD $40 ton

25 to 30 per cent. protein—10 per cent. fat. In 100 lb. bags. 3 cts. lb. less than ton lots. Ask for samples.

CONSOLIDATED DIGESTER TANKAGE

Meat and bone. 40 to 60 per cent. protein—12 per cent. fat. $65 per ton, Less than ton lots, 4 cts. lb.

CONSOLIDATED DRESSED BEEF CO.
Offenhauser Department B
STOCK YARDS PHILADELPHIA, PA.

PIPE second hand. Large stock all sizes furnished with new threads & couplings. Prompt shipments. J. F. Griffith, 416 Moyer St., Phila.

BUY Cotton Seed Meal NOW

Prices have hit bottom. Book for fall shipments. Ask for car lot prices.

J. E. Bartlett Co., Mill K, Jackson, Mich. Low prices-salvage grains-mill feeds

"We Want Cooked Food"

So does every sensible hog. Cooked Food tastes better, digests easier, goes farther, and makes more meat profit. Send today for "Growthy Porker's" message explaining the advantages of cooked food and giving details about

HEESEN COOKERS

Tank Heaters, Hog Troughs, etc. 60,000 farmers in America are boosting profits, cutting feeding cost and eliminating disease among cattle, hogs, sheep and poultry, by using Heesen products. Help your country. Save the grain. Cook your stock food and make it go farther. And you can also use the cooker for rendering lard, heating water, boiling syrup, etc. Write today for circular.

HEESEN BROS. & CO. Box 630 Tecumseh, Michigan

"Speed Up" Your Stock

Turn the "slackers" into workers. Help the producers to do still better. Turn out lots of animal products at high prices. Cut feed costs and increase profits. Put your horses, cattle, sheep and swine in perfect physical condition with

Pratts Animal Regulator

the original guaranteed Stock Tonic and Conditioner

Producers and workers must be vigorous and healthy. Pratts Animal Regulator makes them so. Not a food, but a combination of tonics and conditioners mixed with the regular feed, which sharpens the appetite—assists digestion—regulates the bowels—purifies the blood—tones up the entire system—prevents waste of feed—insures health. Give Pratts a fair trial at our risk under these terms:—

Our dealer in your town has instructions to supply you with Pratts Preparations under our square-deal guarantee—*"Your money back if YOU are not satisfied"*—the guarantee that has stood for nearly 50 years.

Write for 96 page book on the Care of Live Stock and Poultry, Free.

PRATT FOOD COMPANY
Philadelphia Chicago Toronto

Pratts

Live Stock

LIVE STOCK ADVERTISING

Advertising is nothing more than a form of salesmanship. It is the printed talk or argument of the advertiser to the public, and the number of possible customers is fixed only by the amount of money the advertiser has to spend in this way and the judgment he displays in the selection of mediums.

The old saying "It pays to advertise" holds true only when the advertiser has an article or service of merit. When once an individual or firm, thru glaring headlines and highly polished words, unloads a lot of old or inferior stock upon an unsuspecting public, that same people will not be caught a second time in that advertisers' net of deception.

In many respects there is little difference in advertising live stock and in promoting the sale of any other commodity or service. To secure the maximum results the advertiser must "have the goods" to back up his statements, which in each case, must be true and to the point. Truth is essential if a person hopes or expects to gain and hold the confidence of the public.

The growing demand today is for high-grade stock and unless a person has that sort it will not pay him to put his money into advertising something that the wide-awake, progressive breeders do not want and will not buy. The man wishing to advertise the service of a stallion, bull or boar, for instance, must bear in mind that live stock breeding today is for improvement in quality and that it is the sound, high-class purebred sire that is demanded, and not the unsound, off-type inferior individual offered at a low service fee.

Another important matter in connection with live stock advertising is in selecting the proper mediums. Hundreds of dollars are literally thrown away thru carelessness or ignorance of this important feature of the business. It is as unwise as it is costly to advertise live stock in a magazine devoted to horticulture as it is to insert one for high-grade jewelry in a publication devoted to farm machinery. The breeder should select only such publications as are read by the people interested in what he has for sale. While some classes of live stock may be advertised at any time there are cases where the advertisement must be timely and seasonable. No intelligent merchant would think of advertising women's furs in May or June or men's Palm Beach suits in December. For the same reason no progressive breeder should advertise the service of a stallion or bull when the breeding season has come to a close.

A few years since, the writer saw an advertisement of one of the large horse importing firms in the February number of one of the prominent live stock journals in which the readers were informed that "Our third importation for this year arrived August 31." That was indeed going after the fall business with a rush. The facts were, however, that the importation referred to had arrived six months before, or in August of the year that had just closed. Thru carelessness and lack of attention to business this firm had not changed their advertisement in either its heading or its text.

Another case that came under observation was that of a prominent firm of importers of draft stallions that spent large sums of money advertising their stallions in a trotting horse paper and also in one of the big Eastern publications devoted to society's whims such as tennis, golf, hunters, jumpers and dogs and cats. Doubtless this firm considered the "publicity" they would gain among the "four hundred" as worth more to them than any profits they might have realized from sales to farmers and breeders who were the real persons to whom their appeal should have been directed. Common sense and good judgment are as necessary in selecting the mediums in which to advertise live stock as in breeding it.

In considering the proper mediums attention must be given to the selection of such publications as are read by breeders and farmers, and to the amount of territory it is desired to cover. If it be only the home territory, then the local weekly newspaper should be selected, supplementing this by the use of either posters or hand bills. When, however, it is desired to cover an entire state or group of states then the advertiser must select those wide-awake live stock and general farm publications that cover the entire field of agriculture and live stock breeding, and which are read by farmers and breeders of their circulation territory.

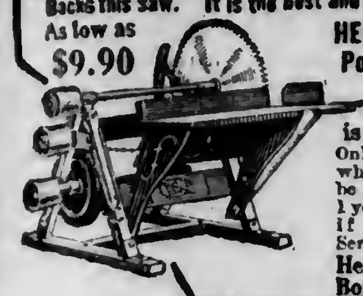
With the more influential publications and those of wide circulation it is frequently the practice to classify advertisements and in such cases the breeders' message will be placed where it can easily be found and read by those interested in the particular class of stock he has for sale. With journals that do not classify advertising there is always the possibility of the advertisement being placed among those of fertilizers, cream separators, etc., so that it becomes practically lost unless by chance it has been prominently displayed by bold headlines and broad black boarders.

It is a bad practice to "load up" an advertisement with many words. The effect produced is tiring and the advertisement will lose much of its value. All statements must be brief but to the point and told in strong, truthful words. With the larger publications the advertiser generally needs but to decide upon the amount of space he wishes to use and the number of times the advertisement is to be inserted. These journals are, as a rule, equipped with men and by experience to properly select suitable type as well as to word the message so as to make the whole attractive and convincing. The breeder has but to give them an accurate description of his stock and the range or scale of prices if it is his desire to quote these.

Where the amount of space will permit, additional strength will be given the advertisement by the use of a good illustration truthfully portraying the class of animals the advertiser has for sale or for service. Good clear photographs must be secured for this purpose, otherwise it will be better not to use an illustration. The impression a good likeness of anything makes is worth the expense in having the photograph and engraving made, but a poor illustration will weaken the advertisement.

If it is desired to ascertain the value of several papers as advertising mediums the breeder may use several different forms of address, one for each publication used. In one the correct street or box number may be used, in another the street number may be omitted, in another no address other than the city or town address may be used, and so on. By keeping a small book in which the name of each publication used is written down with the address used in that paper, the advertiser can soon tell from the replies received and sales made which publications are making good or "proving up". This method of keeping track of results is what is termed "keying" the advertisement.

It should be remembered, therefore, that to advertise live stock successfully the breeder must have the right kind of stock, and must use good judgment in selecting his mediums. His statements regarding what he has for sale or for service should be truthful, brief and to the point, leaving out all literary flourishes. He should advertise at the proper time and the results will be in proportion to the quality of his stock and the confidence his advertisement inspires in the people to whom his appeal is directed.—F.



$10,000.00 Backs this saw. It is the best and cheapest saw made. As low as $9.90

HERTZLER & ZOOK Portable Wood Saw is easy to operate. Only $9.90 saw made to which ripping table can be added. Guaranteed 1 year. Money refunded if not satisfactory. Send for catalog.

Hertzler & Zook Co. Box 29 Belleville, Pa.

Dairy Cattle

Lower Feed Costs
Greater Dairy Profits
WITH PURE BRED HOLSTEINS

The enormous yields of milk and Butterfat of purebred HOLSTEINS and the Lower cost of feed for production, makes them by far the most profitable breed. Get our descriptive booklets free—no obligation—we have nothing to sell.

The Holstein-Friesian Association of America, Box 218, Brattleboro, Vt.

SPOT FARM

Spot Farm Holsteins $15 to $20 each for 7-8 Holstein heifer calves, express paid in lots of 5. 25 high grade close springer cows, fine individuals, heavy milkers. 40 heifers. 35 fancy yearlings. 12 registered cows. 35 registered heifers. Registered and high grade bulls.

JOHN C. REAGAN, Tully, N. Y.

"NO HORNS"
Naturally Polled Holstein-Friesian
bull calves, sired by a son of the World's Record senior 4 yr. old, 1291.7 lb. butter in 365 days, at $100 and up. Descriptive catalog for stamp.
GEO. E. STEVENSON & SONS, Clarks Summit, Pa.

STEVENS FARM HOLSTEINS
Grade Holstein heifer calves $15 to $20, sired by a son of a 30 lb. cow who has a 26 lb. full sister. Dams to these calves are some of the greatest producing cows in Cortland County. Two grade calves & reg. bull calf, $60.
PAUL H. STEVENS, CORTLAND, N. Y.

Holstein Calves 4 registered heifers, 2 bulls, from a 30 lb. sire. Write for prices, pictures and pedigrees.
WALTER M. CRUTTENDEN, Wilkes Barre, Pa.

Belle Alto Guernseys Registered Promising young bulls for sale, 1 to 6 mos. at very reasonable prices. M. H. McCallum, Mgr. Belle Alto Farm, Wernersville, Pa.

Reg. Holsteins Pair of young cows. One has creditable A.R. O. record. Both are big cows and good producers. Bred and priced right.
WILLIAM S. KER, R. D. 3, CARLISLE, PA.

High Grade Guernseys 10 heifers 6 to 18 mo., Glenwood and Langwater blood. F. C. & E. T. BICKNELL, LOCUST DALE FARM, BEACH BOTTOM, PA.

Holstein Bulls from A. R. O. dams. Write your wants; they are priced to sell. M. E. Brenner, Crystal Spring Stock Farm, Littlestown, Pa

Jersey Calves Both sexes. Fine stock of the most noted pedigrees in the world. FRED G. W. RUNK, ALLENTOWN, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Registered Holstein bull and heifer calves from a ton show bull and heavy milking dams. Best breeding. Write I. V. OTTO, CARLISLE, PENNA.

Jersey Bulls ready for light service. Send for pedigrees and prices.
JOHN L. VANHORN, TROY, PA.

Milking Shorthorns herd bull, dam a 11259 lb. daughter of General Clay, grandam, Rose of Glenside. C. M. Kennedy & Sons, Ulster, Pa.

Reg. Holstein Heifer Calves at Farmers' prices.
A. H. HAWKINS, GOSHEN, NEW YORK.

AYRSHIRE BULL CALVES Advance Registry ancestry. Priced to sell. They will improve your herd.
ROBERT TEMPLETON & SON, ULSTER, PA.

Guernseys & Cheshires The quality cow and the quality pig. Let us know your future needs. Fred W. Card & Son, Sylvania, Pa.

Poultry

S. C. White Leghorn yearling hens (Barron Strain), heavy layers, $1.50 each; 25 or more, $1.25 each; choice cockerels, $1 to $5 each; yearling cocks, $3 each. IVYWOOD POULTRY FARM, Box 71 A, Avondale, Chester Co., Pa.

Purebred White Leghorn Cockerels from our "3 HENS IN 1" strain having trapnested ancestry recording 180-250 egg in pullet year, $3, $5, $10.
MOHEGAN FARM, Box M, Peekskill, N. Y.

S. C. White Leghorn baby chix, pullets, hatching eggs, 250 egg strain. Long deep bodies, yellow legs & beaks & large red lop-over combs.
A. R. GRAVES, R. D. 2, RENVILLE, N. Y.

S. C. White Leghorn yearling hens and cockerels for sale. Tom Barron Strain. Prices low on these wonderful layers.
C. P. SHIREY, STEWARTSTOWN, PA.

S. C. W. Leghorns pullets & cockerels, March hatch, from 200 to 230 egg hens. Cockerels at $2 ea.—3 for $5 for Oct. delivery only at these prices. Hidri View Farm, Box 17, Mt. Bethel, Pa.

HENS S. C. White Leghorn yearlings Barron—Wycoff strain $1.25.
R. S. GOOD, PEACH BOTTOM, PENNA.

Barred Rock Sicilian Buttercup and Ancona cockerels and yearling hens. Prices reasonable. J. K. Cadwallader, Wellsville, Pa.

Dogs and Ferrets

HOUNDS—HOUNDS—HOUNDS
Fox, coon & rabbit hounds, broke to gun & field; young hounds on hand; also ferrets at $4 ea. Send for photos.
H. C. LYTLE, FREDERICKSBURG, OHIO.

White and Brown Ferrets prices on request.
BERT EWELL WELLINGTON, OHIO.

SHEPHERD'S CALENDAR

Careful Flockmasters Follow these Simple Rules and Practices to Insure Healthy and Profitable Flocks

1. Cull the flock, sell mouth-broken ewes, and any other ewes that have not proved good producers.

2. Get the ewe flock in good condition before breeding begins.

3. To make service easy, tag all ewes before turning in ram.

4. Use a good, vigorous, purebred ram and do not breed more than 50 ewes to him in a season.

5. Do not use a ram lamb for breeding unless circumstances necessitate and he is unusually well-developed. If used, he should not serve more than 8 to 12 ewes. Never breed ewe lambs.

6. Remove ram from the flock as soon as the breeding season is over.

7. Exercise pregnant ewes as much as possible. Keep them well-sheltered, however, in wet or stormy weather.

8. Do not feed timothy or mash hay. Clover or alfalfa are best (feed all that the flock will eat without waste). Feed corn silage or roots, 2 to 2½ pounds a head daily, to supply succulence.

9. Do not feed mouldy or frozen silage or spoiled roots to sheep.

10. Feed some grain at least a month before lambing, ½ pound of a mixture of equal parts of oats and bran a head daily is very helpful.

11. Give close attention to the ewes at lambing time. It will save many lambs.

12. Pen ewe and new-born lambs away from flock for a few days to prevent her from disowning them.

13. Increase the succulent feed and the grain for ewes the third day after lambing.

14. Castrate ram lambs on a bright day when one to two weeks old. Dock all lambs about a week later. Docking pinchers are recommended.

15. Wean the lambs at 4½ to 5 months of age and do not let them wean themselves. Retain all best ewe lambs for the future flock.

16. Shear the flock just as soon as the weather is warm enough to cause them to suffer from the heat. Use paper twine for tying wool.

17. Dip the whole flock about 10 days after shearing. This is very essential. Any of the standard dips may be used.

18. Feed the flock liberally.

19. Avoid parasites by changing pastures. Do not allow sheep to drink stagnant water.

20. Be on the lookout for maggots in hot weather and fly-time.

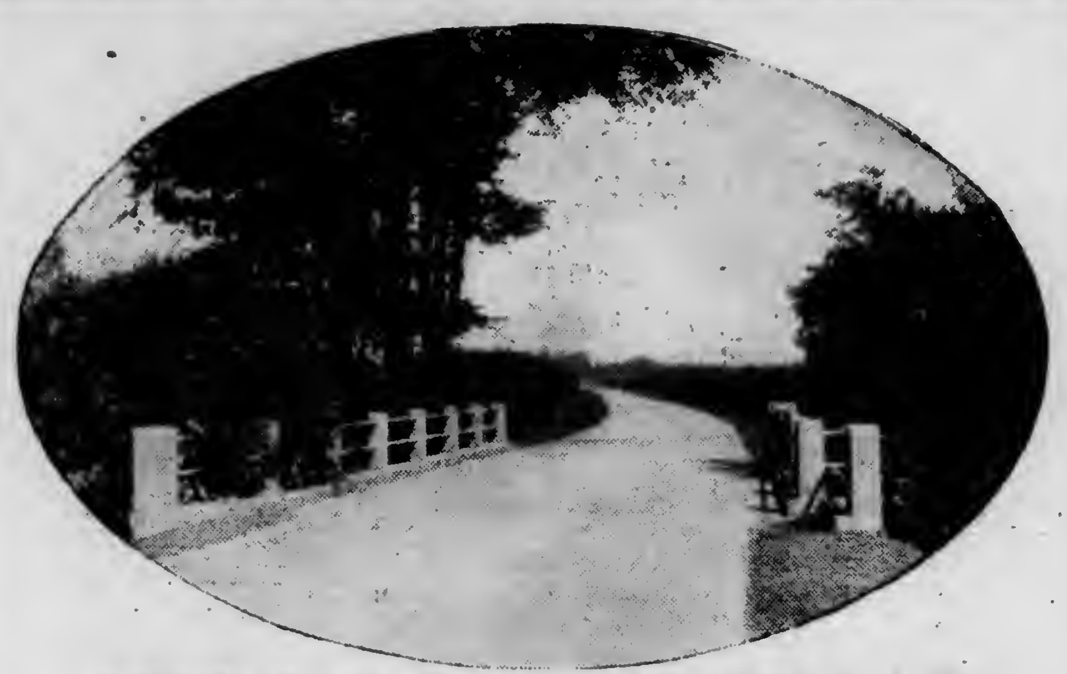
21. Provide a patch of Dwarf Essex rape to furnish feed when pastures are short.

22. Good fences are necessary. Dog-proof corrals safeguard sheep at night.

23. Never keep sheep on low marshy land.

24. Supply the flock with fresh water and salt at all times. Give attention to all details and success is assured.—Wisconsin Extension Service.

Fresh air and sunlight combat disease in the stable. Dairy barns should be airy barns. Ventilation is conservation.



Muskingum River Concrete Road, 2½ Miles West of Marietta, Ohio. Built by McGarry & Stowe, Akron, O., A. F. Cole, County Engineer.

Clearing Country Roads for Action

WAR has suddenly forced the farm to take rank with the packing house, the munitions plant, the steel mill and other industries, as a factor of supreme importance in the service of this country.

No manufacturer in these modern days, when time counts for so much, would think of establishing a factory out in the country without first determining the length of the haul and then reducing hauling time and cost of hauling power to the lowest point possible by removing the obstacles of bad roads. Supplies from the farm to millions of consumers at home and to our troops abroad must first travel over the country road.

Clearing the roads for action doesn't mean some other road; it means YOUR road, if your community is going to do its bit not only in war but in preparing for the greater activities of peace which are to come.

CONCRETE ROADS
Their Advantages
No Mud—No Dust
No Ruts—No Holes
No Slipping
No Skidding
Easy Hauling
Smooth Riding
Long Life—Safety
Always ready for use
Low Maintenance
Moderate Cost

By building hard and durable smooth concrete roads, time wasted in dust, ruts and mudholes may be used on the farm for crop production.

Be sure you know what a concrete road is. Concrete is made of portland cement, sand and pebbles or crushed stone. It is hard and durable, rigid and unyielding. Concrete is used in dams, factories, bridges, and big engineering works like the Panama Canal, requiring great solidity and strength.

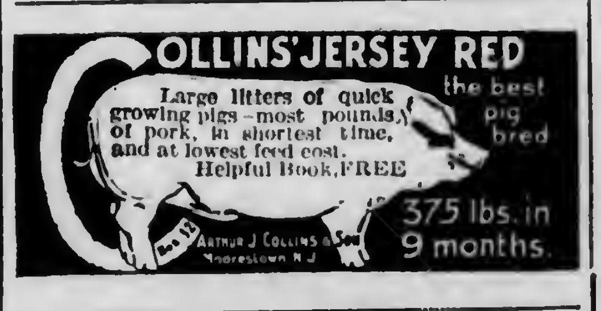
Write for a free copy of Bulletin 136.

PORTLAND CEMENT ASSOCIATION
Offices at
ATLANTA, CHICAGO, INDIANAPOLIS, DALLAS, DENVER, KANSAS CITY, MILWAUKEE, MINNEAPOLIS, PITTSBURGH, SALT LAKE CITY, NEW YORK, SEATTLE, WASHINGTON, D. C., SAN FRANCISCO

CONCRETE FOR PERMANENCE

SWINE

Berkshires of Size and Quality
The boar, Majestic Mammoth 229590, weight 407 lbs. at 7 months old was bred and grown by us. When you want the best and want them big, write to—
C. H. Carter, Whitguern Farm, West Chester, Pa.



Large litters of quick growing pigs—most pounds of pork, in shortest time, and at lowest feed cost. Helpful Book, FREE

HAMPSHIRES Have large litters, our free circular shows noted winner. Write for it. Also registered Guernsey bulls.
Locust Lawn Farm
Bird-In-Hand.
Box 2, Lanc. Co, Pa.

Reg. P. Chinas, Berkshires, C. Whites. Large strain, all ages, mated not akin. 8 weeks pigs, bred sows, service boars, Collie and Beagle dogs. Grade Guernsey calves and poultry.
P. F. HAMILTON, COCHRANVILLE, PA.

Chester Whites Big Type. Write your wants. We can fill them.
R. L. MUNCE, CANONSBURG, PENNA.

Duroc Jerseys of size and quality for profit. Any age. Fall pigs $9 and up.
H. ED. BARCLAY, R. D. 4, SOMERSET, PA.

Berkshires large type fellows, Masterpiece-Long-Fellow blood lines. Also Reg. Holstein-Friesian bull calves, King Segis & De Kol 2nd, Butter Boy 3rd breeding. Jno. C. Bream, Gettysburg, Pa.

Chester Whites & Berkshires pigs 6 & 8 weeks old. 2 Chester White Boars 4 mos. Write your wants.
I. R. TANGER, 2 YORK SPRINGS. PA.

Berkshires for Feeders. 6 weeks old, pure bred. $9 each, either sex. Small supply.
CLOVERDALE FARM. Charlotte, N. Y.

Durocs A choice 2 yr. old service boar; also Spring boars & will be bred for Mar., Apr. & May. Write your wants. Ira D. Jackson, R.10, Vanwert, O.

O.I.C. & Chester White Spring boars & gilts reg. free; Satisfaction & safe del. guar.
JOHN L. VAN HORN. TROY, PENNA.

Large Berkshire Swine Registered High Grade. Prices reasonable. Write
HOME FARM, CENTER VALLEY, PA.

Registered Berkshires Large litters. Fall pigs priced right.
L. C. TOMKINS. ELLENTON, PENNA.

Reg. Poland Chinas Sired by or bred to 1-2 ton boars Cholera immuned by the double treatment. E. Rowell, Scottsburg, Va.

Big Type Poland Chinas Herd boar; sows bred for Oct. farrow; choice Aug. pigs. R. H. LYLE, Cadiz, Ohio.

Reg. O. I. C. Boar, weight 350; a good sire of large litters. Also May farrowed pigs. L. F. NICHOLAS, Mt. Bethel, Pa.

Berkshires high class pigs for sale, Aug. & Sept.—Masterpiece blood cheap.
W. J. Mc CONNELL. OXFORD, PA.

LARGE BERKSHIRES AT HIGHWOOD
Service boars, bred sows, pigs all ages.
H. C. & H. B. HARPENDING, Box 45, Dundee N.Y.

High Grade Reg. Berkshires for sale. Satisfaction guaranteed or no pay.
W. S. JOHNSON. BERWICK, PA.

CHESTER WHITES and POLAND CHINAS All ages. Registered free. Jersey bulls.
J. A. BOAK, ROUTE 4, NEWCASTLE, PA.

Reg. O. I. C. Special sale on fall pigs, for Oct. delivery from best blood lines procurable. Hidri View Farm, Box 17, Mt. Bethel, Pa.

Purebred Jersey Reds 4 to 6 weeks, $6 each.
KARL D. SHINER. TOWANDA, PA.

Purebred Chester Whites (O. I. C.) Weanling boars only.
MOHEGAN FARM, Box M. Peekskill. N. Y.

FOR SALE Red pigs from 30 to 50 pounds for feeders.
WOLCHESTER FARMS. STOCKTON, N. J.

Big Type Poland Chinas boars ready for service. Gilts bred or open. Prolific, easy feeders. Price right. O. C. Powell, Ada, Ohio.

COUNTY NOTES

Lancaster Co., Pa., (S.E.) Sept. 18.—Tobacco is exceptionally good and fairly heavy in the leaf. Only a very few have sold their crop. The frost visiting this section on the 10th and 11th did very little damage altho at first it was thought that the tobacco was damaged to quite an extent. Most of the plowing for wheat is finished but no one has seeded. No corn cut yet. Corn will be one of the best crops this section has ever produced. Threshing is nearly finished and yields of wheat and oats were very good. Eggs, 42 cents; potatoes, $1; wheat, $2; corn, $1.80; oats, 60 to 70 cents; butter, 42 to 47 cents; hogs, 20 cents; good calves, 14 cents; chickens, 20 and 22 cents.—R. C. R.

Broome Co., N. Y., (S.E.) Sept. 17.—Beautiful weather of late has given farmers chance to get work done. Many still have hay to cut. Oats are all cut and mostly threshed. They are yielding well in most cases. Severe frosts last week did heavy damage to late buckwheat and gardens in some sections. Heavy fogs along the rivers prevented damage in the valleys. Potatoes are a fair crop in sections here but are rotting badly in the ground. Apples are very scarce. Green corn has been an abundant crop; now selling at $1 to $1.25 per hundred ears. Tomatoes are selling at $1 to $1.50 per bushel; many are rotting on the vines before ripening. Potatoes bring $1 to $1.25 per bushel at the stores, or 30 to 35 cents per peck at the curb markets. Cabbage, 2 and 3 cents head; beans, $8.50 bushel; carrots, $1 bushel; live fowls, 22 and 25 cents pound; live ducks averaging 5 pounds, 75 cents each. Eggs are 50 cents per doz. There were 85 wagons at the curb market last Saturday morning. The Ladies Aid of one of the local churches sent a wagon load of home-baked goods to the curb market and sold out quickly. A tin can factory is being built near Binghamton which will take 400 laborers.—C. H.

Union Co., Pa., (C). Sept. 25.—The hum of the ensilage cutter is heard in all directions as silos are being filled, and this work will run into next week. Seeding of wheat is in progress, altho ground is getting dry for plowing. Corn cutting has begun and is heavy work with the tall, well-eared corn. Potatoes have mostly been lifted and are being marketed at from 75 to 85 cents, altho some farmers are holding for higher prices. Apple picking will begin next week; the crop is a fair one. Very little clover seed will be made.—J. N. Glover.

Ontario Co., N. Y., (W.C.) Sept. 27.—Late oat harvest has delayed plowing for wheat. The last plowing has scarcely been done at this date when wheat should be sown. There will be little time for harrowing or firming the seed bed. Mine was sown Sept. 22. If one could always sow wheat after barley or cannery peas there would be better chance to make the seed bed what it should be. Blight in potatoes has not been universal nor very severe except in sections. Rot is showing, but this also seems to run in sections. Corn is slow in ripening but the crop will be good if frost holds off a little longer. The pumpkin crop is a failure. Damaging rain and lightening storm did much damage on Sept. 19. Potato harvest will begin about Oct. 1 as usual. The market will likely be unsettled until the effect of the rot is determined. A rot affecting the potatoes after dug and stored is most to be dreaded. Prominent dealers predict that when the market becomes settled we may look for prices of at least a dollar a bushel. — Clarke M. Drake.

QUARANTINE ON CHRISTMAS GREENERY

The Bureau of Economic Zoology in the Pennsylvania Department of Agriculture, in a recent circular, announces a quarantine prohibiting the shipment of Christmas trees and greenery from certain portions of New England into Pennsylvania. The order prohibits the shipment, transportation, receipt or sale of any evergreen trees such as spruce, white cedar, fir, hemlock or pine which were cut or originated in the gypsy moth quarantine area of New England as bounded by the Federal Horticultural Board. For full information read Circular No. 5 of the above Bureau. Free upon request at the above Department, Harrisburg, Pa.

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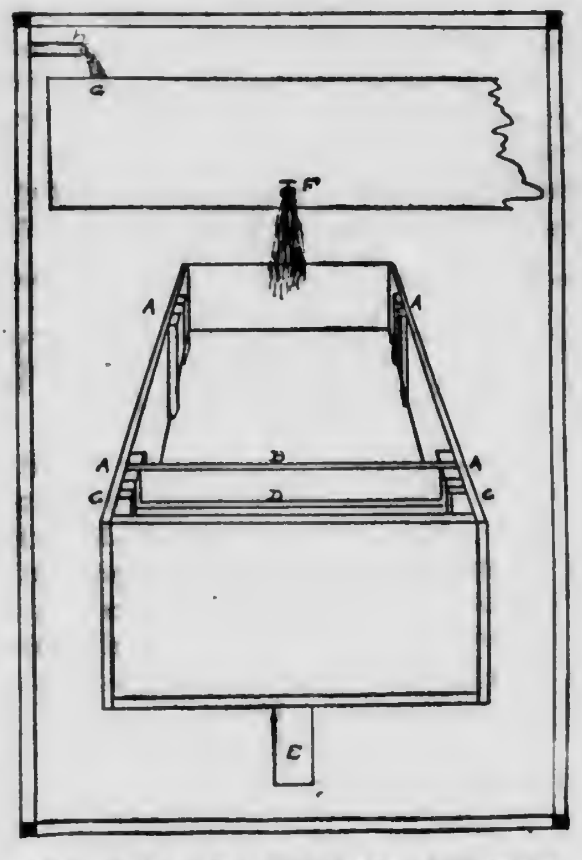
A Fish Pond for the Farm

Raising Fish for Food and for Sale.---By W. E. Meehan.

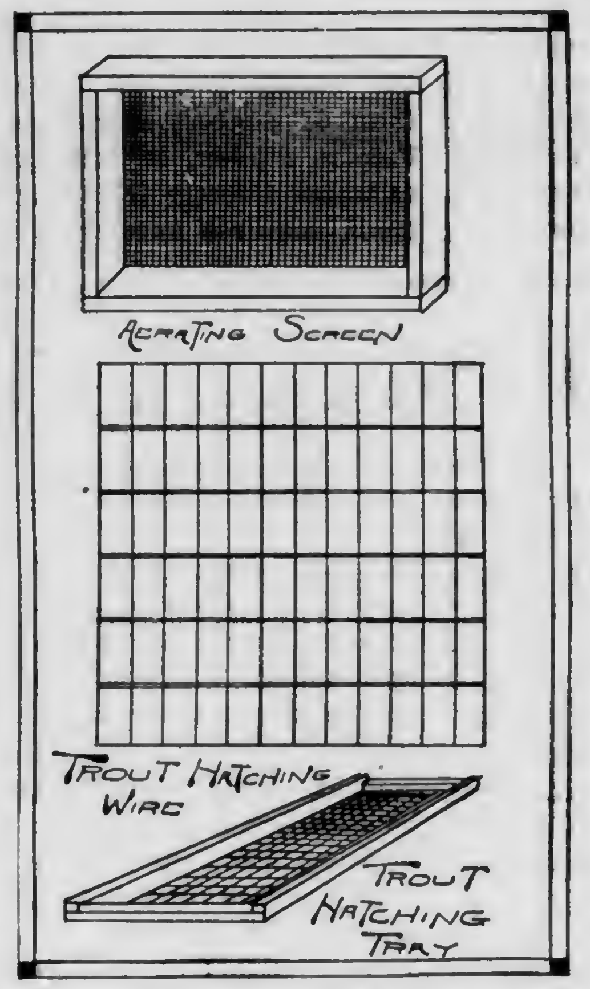
> Note.—The suggestion of growing fish on farms has frequently been made, but without much progress. With the increasing prices on all meat products in the past years, and the increased demands for fish, the subject has again been advanced, and fish culture on the farm is being urged.
>
> The following article gives the reader the fundamental principles that must be observed in such work.—The Editors.

Many eastern farmers might engage in fish culture with a reasonable amount of success, within a comparatively short time. If it be undertaken, however, the farmer must make up his mind to give it the same attention that he would to any other branch of his calling. The difficulties to be encountered are no greater than with the rearing of any form of live stock and certainly no more than in the raising of poultry. At the outset, owing to unfamiliarity with the habits of fish and of their propagation, he may meet with discouragements and failures, and he will have the added embarrassment of there being very little up-to-date literature on the subject of fish culture; but if certain simple rules are adhered to, and an earnest, natural intelligence be given, these difficulties will be overcome, and a fair degree of success assured.

There are a great many farmers who have the proper land and a sufficient amount of water to engage in profitable fish farming for either themselves or the market, and possibly both. Money will, of course, have to be expended in building suitable ponds, or perhaps the erection of buildings, but no more than would have to be invested for the establishment of any other branch of farm work. If it is intended to rear fish for the market, returns will begin to come in two years after the successful establishment of the plant. Financial success in fish culture, as in almost anything else, depends on strict attention to little things, and the turning into money of everything connected with the work. In trout culture for example, every egg not needed for the establishment is sold. Surplus fish are sold almost from the very outset, from the size of one inch up to the two-year-olds; and the cost of everything must be carefully considered, and even prodigal feeding, which is necessary, must be watched with a careful eye.



Aerating Tank For Fish Spawn, A, Cleat for aerating screen; B, aerating Screen; C, Cleat for dam; D, Dam; E, Drain pipe; F, Wooden faucet; G, Supply Trough; H, Inflow pipe for water.



The most desirable land for fish culture is almost invariably that which is useless or comparatively of no account for other farm purposes. A piece of swamp land thru which a stream flows, or a piece of low land over which water can be flowed, is what is required. There ought to be more or less pitch to the land from the upper to the lower end, so that all parts can be readily drained, and fall enough so that water can be given proper aeration. Where there is not enough land of this description to warrant raising fish for the market, the farmer may raise fish for family consumption, and possibly with some to spare.

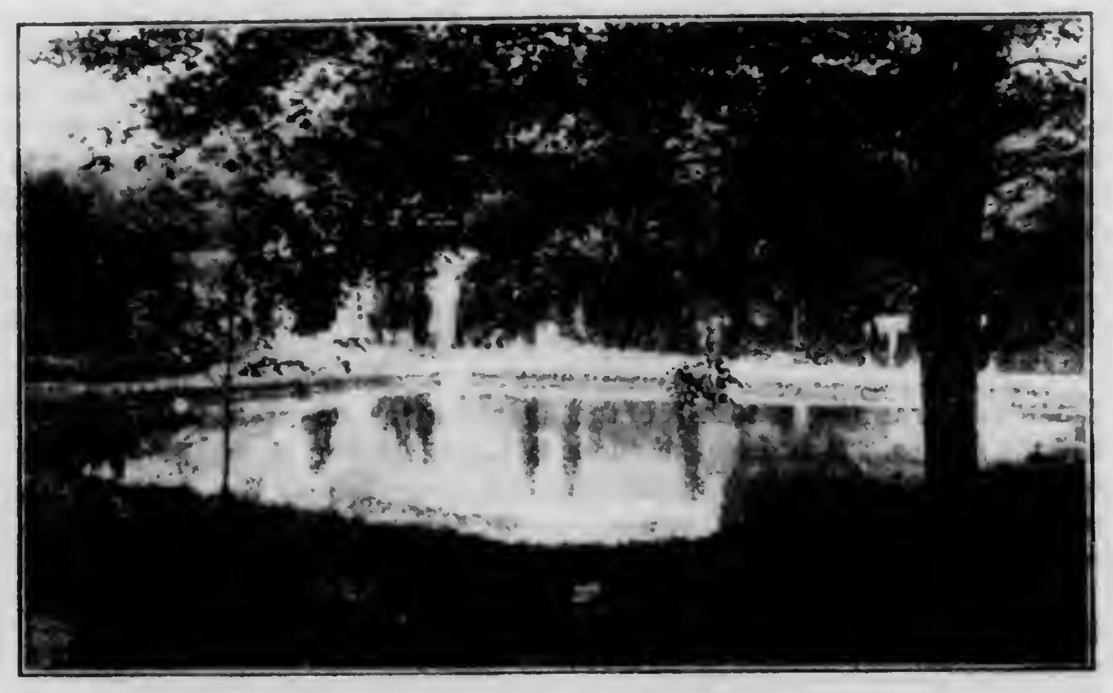
It depends on the character of the water what kind of fish the farmer can rear. If it is spring water, he can raise brook trout, or any species of trout he may desire, altho the first is considered far superior to others. It should be remembered, however, that a person raising brook trout can, in most states, only use them for home consumption during what is called the legal open season. The only legal manner by which trout reared in captivity may be taken and used at any time of the year in Pennsylvania is by securing licenses or permits in accordance with the provisions of the law, and returns of every fish disposed of and the value thereof made to the state annually.

Breeders of what are called warm water fishes; that is, fishes that live and thrive in water temperatures above 70 degrees, might or might not have to take out the same license, to kill a fish for food at any time of the year, whether they are rated as game fish or food fish. Thus a breeder of purely home consumption can have a larger list of fish to select from than one who intends to cultivate for the market.

Taking into consideration the greatest number that can be successfully carried in a pond of a given size, the best species for home consumption are the cat-fish, the yellow perch, the blue-gill or Lake Erie sunfish, and the carp. The food qualities of all, with the possible exception of the last named, are ranked very high, and the flesh of the carp is not to be despised when it is reared under proper conditions. If it is desired, the cat fish, yellow perch and sun fish may all be reared in one pond, after they have reached the age of one year; but it must be remembered that a pond will only hold a certain number of fish, whether of one species or three. A pond of one acre in extent, and rearing ponds aggregating about the same area, ought to supply all the fish that a family would care to consume and leave a small surplus for sale.

The position of the rearing ponds is not vital. They may be either above or below the mature ponds. It is perhaps a little better to have them below, especially if the water supply is from a small spring run, and not far from the spring itself. Where the rearing ponds are placed next to the spring, there is the probability that the water will be cooler than needed. Relatively high temperature is desirable, especially with the cat fish, yellow perch and sun fish, as well as carp. It is also important not to split or divide the water flow any more than necessary, as splitting it lowers its aeration. It would therefore be better that the brood pond be the uppermost.

To construct it, first take a land level, by means of a measuring board and a spirit level and if possible locate the pond so that the water from the little spring or the stream will fall into the upper end or be carried by a pipe so that the water will fall heavily. Excavate the area to be covered by the pond, to good solid clay, if such exists near the surface; but the greater part must be built to hold from two to two and a half feet of water, and the



Small Farm Pond for Rearing Warm Water Fish.

remainder from five to six feet or more. The excavation, therefore, if there is no solid clay, ought to be a little deeper, so that the bottom can be thoroly puddled and made water tight. The lower part of the pond, that is, near where the breast is to be, must be from five to six feet deep. The deeper portion is called the kettle; the remainder, or shallow part, the shelf. In the breast of the pond place a sluiceway, with flash boards, on the pond side, on which, two feet away, there must be a screen to prevent the fish from getting out and passing over the flash boards.

In this pond will be kept only the fish that are one year old and over. The outflow from the pond ought to extend for at least a hundred feet, where the breeding pond may begin. The breeding ponds can vary in size from 20x60 feet to 40x200 feet, the total number aggregating in area the extent of the brood pond. The outflows of these ponds should be constructed in the same manner as in the larger body. Their depth should be almost uniform—two feet—perhaps about six inches deeper at the lower end. For cat fish, sun fish and yellow perch and carp, neither the sides nor the bottom of the ponds should be concreted. But if cat fish are not to be reared, then for the other species the sides may be concreted if desired. Cat fish breed by excavating a hole in the bank or in the bottom, an impossible feat if concrete is used.

The sun fish, the cat fish and the yellow perch may be allowed to spawn naturally in the brood ponds, and the young netted out and placed in one or two of the rearing ponds, keeping each species by itself. Every six or eight weeks these fishes should be sorted into sizes, so that several small ponds are required for effective work. The last sorting may be made about the first of October, and the following spring the largest may be placed in the brood pond and the smallest scattered in the rearing ponds until spawning time comes around again.

The brood carp, when spawning time arrives, should be taken from the main pond and put in specially constructed ponds, 10x20 feet; two females and one male, or not more than three females and two males to each pond. Either there must be a quantity of water grass in these ponds, or bunches of grass tied to sacking and submerged. The eggs of the carp are laid on the grasses, and as soon as deposited should be removed to other ponds, containing no fish. As the female carp is provided with a very large number of eggs, six or eight females will supply more young carp than two families could consume in twelve months. After the young carp have absorbed the sac they are to be handled in the same manner as yellow perch, sun fish and cat fish.

If a farmer is fortunate enough to have a spring yielding a hundred gallons a minute, or enough to fill a one-inch pipe, he can rear trout enough for his own consumption and perhaps a surplus. It may be that instead of spring there is a stream of spring water flowing thru the property which can be utilized. If the water in the spring does not have a higher temperature than 65 degrees in mid-summer and it does not become muddy, it will answer the same purpose as water directly from a spring. The breeding of trout requires special equipment and skill, and the breeder should make a special study of the work before undertaking it. It will be advisable for many to buy the young fish rather than to attempt to grow them. A pond 30x14 feet will carry at the outset about 10,000 three-months-old trout; but when over five months old the same pond will not hold more than 5,000; and of yearlings not more than 1,200 or 1,300.

Old Boile: Used For Water Trough. Concrete or Clay Bottom.

It is not good policy to introduce black bass, pickerel, or any other strongly carnivorous fish into small ponds for the purpose of propagating them for home consumption. They require far too much attention, and the number of fish which can be carried in a pond is much less than some of the ordinary food and game fishes. A pond of an acre in extent, for example, would not contain more than 200 black bass, and it would be difficult to bring them to eating anything but live food like minnows. It is only advisable to rear black bass where it is intended purely as a commercial proposition, and that the customers will be entirely from among those who wish to buy young fish for stocking private ponds. A plant for black bass would be expensive, and much of the work experimental with uncertain results.

This discussion has dealt only with fish culture for home consumption. An intention to cultivate for the market simply means an expansion of the plans and advice already given. Instead of one pond for mature fishes, there would have to be two or more; and the number of rearing ponds increased proportionately, with of course a corresponding increase of the volume of water. It would probably not be expedient to raise sun fish or yellow perch for the market for food purposes, altho it might be successfully done. The German carp offers the greatest inducements as a commercial enterprise and the cat fish nearly as much so. This of course refers to what are known as warm water fishes. The greatest pecuniary returns would be to the man who had sufficient spring or creek water of proper character to raise brook trout on a large scale.

There are a number of people engaged in the rearing of brook trout for the market, and some of them are making from 10 to 12 percent annually on their investment. As much as $1,500 an acre has been netted from a three-acre pond.

THE FOOD SITUATION IN FRANCE---II

By FRED B. PITNEY

How many times I have heard soldiers on leave from the front say, "I would rather have our bread at the front than your bread here in Paris." The same thing was true of coffee. Soldiers would say, "What do you call this stuff? We get real coffee at the front."

At the rear the civilians drank a compound from chicory, for the coffee supply was short, while the real coffee was reserved for the army. In like manner, the soldiers get a more pure wheat flour than do the civilians. The wheat supply being so much curtailed, two measures have been necessary to try to increase the amount of flour.

A law has been passed requiring the mixture of thirty percent of other grains with wheat in making flour, while another law raised the percentage of extraction permitted in the manufacture of flour. Before the war this percentage was seventy, it has been raised successively to 74, 77, 80 and 85. Seventy-seven is the extreme limit of nutritive extraction. After that the flour becomes permeated with particles indigestible for human beings.

The result of mixing grains and high extraction has been a flour that is often not only unpalatable but indigestible and it has caused not a little sickness, particularly gastric troubles among the children. Adults frequently throw away the soft inside of the bread and eat only the hard baked crust. Very often I have found this "war bread" an unpleasant dark brown in color with a soggy, glutinous inside. It is no one's fault. It is the best that can be done under the circumstances.

Shortage of All Cereals in France

Another problem enters with the authorization to mix other grains with wheat in making flour. It is the shortage of the other grains. For it is not only wheat that is short in France but all cereals. We can have recourse once more to the official figures.

The annual consumption of barley in France before the war equalled approximately 1,250,000 tons, of which about 15 percent was imported. The production has fallen off to such an extent that nearly one-third of the barley had to be imported last year. This year, owing to special reasons, the production will be slightly higher, but there will still be a deficit far above the normal. Furthermore, the deficit in barley must be considered not only in relation to the normal consumption, but with regard to the fact that it must be used very largely to supplement and replace wheat.

With rye the normal consumption was about the same as for barley, with imports of about eight percent of the requirements. In 1915 the production was about 400,000 tons under the normal consumption and in 1916 it was about 350,000 tons under the consumption, while in both of those years there were practically no imports. Thus there was less rye than was needed and rye could only help out wheat by reducing still further the amount given to its normal uses.

The annual consumption of corn averaged 1,150,000 tons, about one-half being imported. The proportion of imports in 1916 had risen to two-thirds.

The annual consumption of oats before the war was 5,500,000 tons, of which 500,000 tons were imported. In 1916 the imports rose to over 1,000,000 tons and the stock was still short 500,000 tons.

Agricultural Labor Shortage

When one travels over France, one speedily learns the reason for the shortage in the grain crops. It is because there is not the labor to do the farm work. Cultivation has to be left to the old men, the women and the children. All others have been taken for the armies and the defense of the country.

In crossing and recrossing the French agricultural regions it has been a continual source of wonder to me how the few workers in the fields have been able to produce the crops they have achieved. One sees plows with the handles held by women and the horses led by small boys, women stooping among the long rows of corn, cultivating the ground, groups of women slowly crossing the fields, creeping on their knees, painfully tending the newly planted crops. Occasionally one sees a white bearded patriarch among the women. I should say that the proportion is roughly one man to six women. This, however, is by no means an official figure. It is only my own rough guess.

There is no wonder that with this tremendous shortage in labor, fields are left bare, while those that can be cultivated produce less than the normal amount per acre. What would our western farmers think of turning the land in the spring with long bladed hoes? Yet I have seen this very thing being done in many parts of France because of the dearth of agricultural machinery.

Farm Implement Shortage

Most of the farm implements of France before the war were of American make. One saw the American mark on the plows and harrows, the rakes and reapers and binders and threshers all over France. Since the war much of this machinery has deteriorated sadly and a great part of it is entirely unfit for use, because there are not the mechanics to keep it in repair, and there has not been the importation of new machines and parts to replace the old and worn-out pieces.

France is a country at war, very really and terribly at war. The invader is on her soil. Her mines and furnaces and factories are in German hands. Her richest manufacturing provinces are held by the enemy. Her men must go to the trenches to defend their country and drive back the hordes from across the Rhine. And those men of the armies must be fed and have the means to fight. Above all, they must have arms and munitions, big guns and shells.

Resources Have Suffered

Every thought of France for three long years of a bloody and sacrificial war has been given to "les braves" at the front. Little has remained for the civilians at the rear, who have borne their trials in stoic calm for the sake of the soldiers in the trenches. And in those years the resources of France have suffered, especially the farm resources, for imports have had to be directed to the army. The steel brought in has been for shells, the machinery to make more shells and guns. The plowshares has been beaten into a sword, while the reaper has rotted idle in the fields with only the hands of women and children to tend it.

Now, France needs grain. She must have grain to make bread both for soldiers and civilians. And only America can supply it. The burden of victory lies as heavily on our western farmers as on the soldiers on the battlefields of France.

By the Way

By

Father Penn

The old expression, "The other fellow's business always looks to be more desirable than our own", was never better illustrated than just now. In spite of ready sale and high prices in every line, almost everyone is complaining that he is not making any money, but believes that "the other fellow" must be making big profits. Start with any given product and follow it back thru all the hands who have handled it, each one claiming that the fellow's price just before him makes the charges necessary, we come at last to the producer-laborer who in turn says that his living expenses are so high that he is barely able to make ends meet, even with his big wages. And we, knowing the prices he pays, can not doubt it. There is no question but that we are living in a period of greatly inflated prices. If we were paying as we go, it would probably not make much trouble when the slump comes. But we are going into debt by the billion and the debt is based upon inflated prices. These immense sums must be paid in the future by normal wages and normal profits. Who is going to get the difference?

I find that some dairymen are in a quandary as to what they can afford to feed their cows the coming winter. Some are considering the advisability of feeding only home grown forage and grains. For instance, one man said the other day that he had silage and hay and was thinking of having corn and oats ground together and avoid purchasing the ordinary feeds. At the present prices of corn and oats and the market price of milk, I do not believe this is a wise move. Corn and oats are worth too much money and besides they will not properly balance silage and mixed hay. If the hay were clover, or better yet alfalfa, he would be more nearly independent.

The unusual demand for fats and oils has diverted a great part of some very popular concentrated feeds into other uses and as a consequence the prices have gone skyward. There never was a time when the stock feeder needed to sit down with pencil and paper and do a little figuring so much as now. There is plenty of information available concerning the food content of the different materials, and if we will but compare the food value with the price of different feeds we may readily find which is most economical.

In comparing feeds, learn the protein, nitrogen free extract and fat content of each. Since the last two named—nitrogen free extract and fats—are usually in abundance in home-grown feeds, the chief concern in buying feeds is to get as much protein as possible for the price. Thus the farmer referred to above would find that he would pay dearly for enough protein from oats if he gives them the present market value of 65 cents per bushel. After learning as much as can be learned by figuring, it is well to get a small quantity of the most promising and test them out by feeding each one for two weeks, then try another. Be sure to keep strict account of cost, amount fed and milk produced. By this means and this only can one learn what is most economical to feed.

The question is frequently asked why we are urged to substitute corn for wheat so as to allow the exportation of wheat to France and other European countries. The feeling is prevalent that the French should do the substituting since they are the supplients. The reason is that there are no mills in Europe for making corn flour since they have never grown any corn to speak of, and in addition is the fact that ground corn will heat and spoil in shipping. So, the logical thing to do is to keep and use the corn here.

The writer had the opportunity of examining and tasting some cakes and bread made of potato flour. It is indeed surprising how similar in looks, texture and flavor it was to wheat-flour bread. With the exception of having a slight yellowish tinge it could readily be passed as wheat bread. Of course, with wheat and potatoes at the present prices it would not be economical to use potatoes for bread, but it proves what could be done if circumstances ever demand it.

The War and the Farmer

Such Unsightly Trees Had Better Be Cut Into Firewood.

In shaping his course during the war the farmer must realize that his added responsibility is patriotic rather than personal. Nothing would so bring discredit upon him with his fellow citizens than to pervert the opportunities of the times into personal gain. Unfortunately there are even now some such cases to be met. Is the farmer who hold $2.20 wheat for a rise of ten cents a good American? In normal times possibly, but certainly not under conditions as they obtain today. We are at war with a powerful nation which seems to have entirely lost its national perspective. It has reverted to forms of barbarism which make necessary the upsetting of conventional ideas of international relations, and it seems very clear that the chaotic political and economic conditions existing in all parts of the world will make necessary a world readjustment. Even the most sanguine cannot hope for normal conditions for sometime to come. After actual hostilities have ceased the necessary time required for safeguarding the world against another "kultured" nation will be considerable, during which time the world will, as never before, continue to require the best efforts of the farmer. Spasmodic efforts or mere temporary makeshifts will not meet the requirements of the case, but a firm determination to put into practice only those policies which will make the farm yield the maximum crops per acre. This calls for resourcefulness.

Save Potash

The greatest danger, probably, is the temptation to rob the land. Even tho food stuffs are now so greatly needed, it is a very short-sighted policy which keeps in mind only the needs of the present. In fact, greater care than usual must be exercised to maintain soil fertility in view of the present potash situation. If there is any cheap source of wood ashes at hand, these can be used to take the place of potash in commercial fertilizers, at least in part. Or, if the farmer happens to live near the coast, he may be able to obtain kelp and in it have another cheap source. Plowing, harrowing, providing leguminous cover crops for winter, attention to insect and disease prevention, care in seed selection and the careful handling of vegetables and grains over winter should be followed with even greater diligence than usual in order that farm management as a whole may be of better character—cultivating only as much land as can be well and thoroly cared for.

Disturbed Supply

Another point which should be well recognized is the disturbance to the natural supply and demand caused by the Government's urgent appeal to amateur gardeners. These war gardens were numerous, and while a large number of them failed, yet there were enough successful ones to make a decided impression on the local markets. In so far as this extra supply of food stuffs brought about lower prices, it was well worth while. But another factor of great importance must be recognized. The produce from the war gardens (potatoes for instance) will come into direct competition with that raised by farmers, and the latter will logically receive less for their crops than they otherwise would have done. Following this line of reasoning, the tendency will be to plant less next year; and hence next year's crop will be small. This condition is the result of the natural law of supply and demand and is experienced very often during normal times, but is then of less importance. The world, however, stands in far too great need of food at the present time to permit of the reduction of planting without serious consequences.

Labor Situation

The patriotic obligation which rests upon every farmer today demands a determination upon his part to make the best of the bad labor situation which handicaps him, to give unusual attention to the improved methods of farm management, and to bring into play every resource at his command. If he will do these things and do them well, he will be just as important a factor in the speedy restoration of peace as the soldier on the firing line. America and her allies are determined "to make the world safe for democracy" at no matter what cost. And the real American farmer should have as great a determination to put into effect a sound policy of soil husbandry which will make possible not only the better carrying out of our war aims, but increased prosperity after the war as well. One is as essential as the other. Farmers were one of the leading factors in establishing American independence, and we believe that they will be a leading factor in maintaining it.—L. Wayne Arny.

POTATO COSTS AND YIELDS

The cost of producing potatoes as computed from figures furnished by various farmers, ranges from $97 to $135 per acre with a yield ranging from 80 to 450 bushels per acre. As a rule those who figure that the cost of production is $97 are the ones who show the low yield. Accordingly they must receive a good deal over $1 per bushel in order to come out even. Those who put more money into the cost of production and secure a yield of 400 bushels per acre are producing potatoes at 35 cents per bushel.

One of the fundamental differences between the low and the high production is the selection of the seed. There are quite a number who regularly select their seed from the large producing hills that are true to type. These men are the ones who are securing the large yields, and, in addition to securing these large yields, they are selling a large amount of their production for seed which brings a premium of from 25 to 50 cents a bushel above table potatoes.—F. R. Stevens, Agriculturist, L. V. Railroad.

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Horticulture

NATIONAL VEGETABLE SHOW

The First National Vegetable Show, held in Springfield, Mass., October 12 to 20, was a wonderful display. It was made possible by the generous co-operation of the Eastern States Exposition. It is safe to say that never was there collected under one roof such a variety of vegetable products that so closely approached perfection. It was a joy for anyone just to look upon those exhibits; but for the market gardener and the seedsman with high ideals, it was truly a wonderful inspiration.

The exhibits were largely from the New England and Middle Atlantic States—Minnesota and Oregon were the only Western states represented.

Honey Dew Musk Melons Grown at Bridgeton, N. J., 1917.

The present difficulties in express shipments interfered very seriously in the exhibits from Pennsylvania, especially. The exhibits of The Pennsylvania State College and the greater part of the exhibits of the Pennsylvania Vegetable Growers' Association and portions of the New Castle local exhibit did not reach Springfield in time for the show. But in spite of these difficulties, the Pennsylvania growers have reason to be proud. The Philadelphia Vegetable Growers' Association sent their exhibit by motor truck all the way to Springfield, and incidentally brought home a first prize of $125 and a banner, on an unlimited display open to local associations.

Likewise, the New Castle Market Gardeners' Association exhibit in Class 2 reflected great credit upon the growers in that association. The quality of their display can best be gauged when it is known that it was placed ahead of the Boston Exhibit and won a third prize of $75 and a banner. The first prize of this particular class was won by the Irondequoit (N. Y.) growers, which was absolutely the most nearly perfect display of vegetables imaginable. Practically every specimen was perfect, and quality and uniformity thruout were most striking. Other exhibits which deserve special mention were the Providence, R. I., Association exhibit and the Springfield, Mass., Association exhibit.

It is certainly to be hoped that the impetus given by this First National Vegetable Show will result in making the National Vegetable Show an annual event. The value of such displays is inestimable. They will result in better seeds from the seedsman, better products from the grower and, above all, greater appreciation of quality and greater demand for vegetable foods from the millions of consumers.

List of Awards

Class 1. Limited collections from state asociations: 1st, $100 and banner, Massachusetts Vegetable Growers' Association; 2nd, $50 and banner, Ohio Vegetable Growers' Association; 3rd, $30 and banner, Minnesota Vegetable Growers' Association; 4th, banner, Connecticut Vegetable Growers' Association; 5th, banner, New York Vegetable Growers' Association.

Class 3. Unlimited collection from local vegetable growers' associations: 1st, $125 and banner, Irondequoit, New York; 2nd, $100 and banner, Providence, R. I.; 4th, $50 and banner, New Castle, Pa.; 4th, $50 and banner, Boston, Mass.; 5th, $25 and banner, Hartford, Conn.

Class 3. Unlimited collection from local vegetable growers' associations: 1st, $125 and banner, Philadelphia, Pa.; 2nd, $100 and banner, Springfield, Mass.; 3rd, $75 and banner, Providence, R. I.; 4th, $50 and banner, Bridgeport, Conn.; 5th, $25 and banner, Boston, Mass.

Class 4. Individuals' unlimited exhibit: 1st, $40, Edwin L. Lewis, Taunton, Mass.; 2nd, $25, W. E. Cross, Agawan, Mass.; 5th, $10, Carlton M. Sterns, Chicopee Falls, Mass.

Class 5. Individuals' limited collection: 1st, $40, J. M. and A. H. Smith, Chicopee Falls, Mass.

Class 7. Educational Exhibits from agricultural colleges and experiment stations: 1st, banner, Massachusetts Agriculture College; 2nd, banner, University of Illinois; 3rd, banner, Oregon Agricultural College.

Class 6. Specialists' limited collections of five vegetables, not more than 3 varieties each: 1st, $30, Edwin L. Lewis, Taunton, Mass.; 2nd, $20, A. H. Burnham; 3rd, $10, Car. Albano, Springfield, Mass.

Class 10. Collection of 10 vegetables packed for market (local): 1st, $75 and banner, E. L. Lewis, Taunton, Mass.; 2nd, $60 and banner, E. C. Potter, Providence, R. I.; 3rd, $40 and banner, H. M. Howard, West Newton, Mass.; 4th, $30 and banner, W. H. Pierce, West Springfield, Mass.; 5th, $20 and banner, Starkey Produce Co., Bustleton, Pa.

Class 11. Collection of 10 vegetables packed for shipping market: 1st, $75 and banner, The Highwood Fruit and Vegetable Growers' Association; 2nd, $60 and banner, H. M. Howard, West Newton, Mass.

Business Session

The proposal made by the President to employ a permanent secretary was discussed at various points thruout the meeting. At the business session it was decided to employ such a secretary provided such an office can be properly financed without too serious drain on the funds of the Association. It is understood that an effort will be made to secure contributions for the purpose from members and allied industries. The Executive committee was instructed to work out a system of affiliation with state and local organizations on a basis of representative delegates. There are about 700 local vegetable growers' associations in the country and the effort will be to draw as many of these as possible into the national body. It was further decided to create a council consisting of the officers and directors of the Association. Such a council will be required to hold a meeting just previous to the annual meeting of the Association and pass on all new business before same is submitted to the national body.

Timely Fruit Notes

By Dr. J. P. STEWART

Spraying for Peach Leaf-Curl

One of the recent developments in spraying is the fact that the leaf-curl of peaches can be controlled just as well in the fall as in spring, and, in fact, much better than in spring, unless the latter application is made clearly before any growth has started in the buds. This should enable the peach growers to get at least a large part of their spraying done in the fall, as the work can be done with lime-sulphur which will also control the San Jose scale at the same time if applied at proper strength.

For the leaf-curl alone, the lime-sulphur can be diluted as much as 1 to a total of 15, in the case of the best commercial grades, which should give a density of about 1.02 in the diluted spray. This is obtained by using about 3½ gallons of a 32 degree concentrate in 50 gallons of spray. If home-made lime-sulphur concentrates are used, dilute so as to get the final density of 1.02, which will require about 4½ gallons on the average to 50 gallons of spray.

If the scale is also to be controlled at the same time the rate of dilution should not be greater than 1 to a total of 9 in case of the best commercial concentrates, or to a total of 7 in the average home-made material. This will require about 5⅓ gallons of a 32 degree concentrate in 50 gallons of spray, or about 6⅓ gallons of good home-made material in the same quantity of spray.

In the case of the scale at least, it is probable that the best results can be obtained by making the application within about 6 weeks after the majority of the leaves have fallen. Any time during the strictly dormant season, when the weather is fair and the temperature well above freezing, will be satisfactory for the leaf-curl. For both these troubles, thoroness of application is of prime importance in securing the best results.

Apple Rust and Its Control

"Will you please tell me what is the matter with two diseased apples I am mailing you today, and what I can have done to prevent the trouble next year? The trees have been sprayed with lime and sulphur in winter and in the spring with arsenate of lead."—E. E., Maine.

The difficulty in this case is due to cedar rust. The only effective method of control consists in the eradication of the red cedars, upon which this fungus passes an essential part of its life cycle. The eradication must be done thoroly. To be really effective, all red cedars within a radius of at least a mile about the apple orchard should be destroyed. The trees, moreover, should be cut before March 1st or else burned at once if cut later than that date. If it is impossible to destroy the cedars to this distance, something may be accomplished by careful inspection of all cedars within the prescribed area and by removing all of the galls or so-called cedar apples which occur on these cedars, completing this work before March 1st to make sure that no spores will have already escaped to infect the apples. This work must be done every year.

Where orchards are far enough from the cedars to escape severe infection and where only moderately susceptible varieties occur, it is sometimes practicable to control this disease by spraying the apple trees. To afford satisfactory protection, the first application should be made as soon as the leaves unfold and they should be kept protected until the first week in June. It is only the new leaves that are susceptible, and hence they must be kept protected as soon as they appear. Lime-sulphur solution, at the rate of about 1½ gallons of the best commercial concentrates, in a total of 50 gallons of spray, is the most effective material to use.

Ohio Rome Beauty Crop from Fertilized and Unfertilized Rows.

THE HONEY DEW MUSKMELON

Within a very few years the honey dew muskmelon has sprung into favor, because it has proved itself to be one of the most delicious and profitable melons recently introduced. Their usual size is about 9 inches in length and 7 inches in diameter. The meat is nearly three inches thick, of a smooth texture and of delicious quality. These melons are coming into our eastern markets in large quantities and are selling from twenty-five cents to one dollar each. Naturally the eastern growers have a desire to grow these melons but it has been commonly supposed that because they required an unusually long growing season that it was impossible for them to mature in the East. However, at least two New Jersey growers have had splendid success with them this season.

Mr. Walter Bacon, Bridgeton, N. J., grew about 30 specimens on a dozen hills in his home garden and Mr. R. W. Cox, Pemberton, N. J., grew an acre of them very successfully and received a net return of over $500 per acre. Every melon sold for twenty cents or more and he could not supply the demand they created.

The success attained by these growers is due to the fact that they started these melons in paper boxes in the hotbeds four weeks before it was time to set them in the field. Thus the growing season was lengthened at least six weeks, because it requires several days longer for seed to germinate in the cool soil of the field than it does in the warm soil of a hotbed. Transplanted melons are not seriously bothered with the striped squash beetles, flea beetles and cutworms. Therefore, their growth is uninterrupted right from the beginning.

The soil is especially prepared by plowing under a cover crop of clover or rye and vetch. Unless the soil has been limed within recent years, a light application of lime is applied and immediately harrowed into the soil. The rows are marked out about six feet apart and deep enough so that well decomposed manure may be distributed along in the row. A fertilizer high in phosphoric acid is spread on top of this manure before it is covered. No matter how much manure may be used better returns are always realized by supplementing it with a commercial fertilizer high in phosphoric acid, because manure is deficient in this element which is so essential for the best development of the melons.

During the growing season the vines grew vigorously; however, as it was the custom of the growers to spray their cantaloupes with Bordeaux mixture, the honey dew melons were sprayed at regular intervals. On the sixth day of August Mr. Bacon's garden plot was covered with vigorous vines and large melons were plentiful, altho they were not ripe until several weeks later. The sandy soil of southern New Jersey seems to be particularly adapted to the Honey Dew melon. All those grown were of splendid flavor, thick meated and had an attractive appearance considering the variety. Needless to say, the Honey Dew melon will be planted on a more extensive scale in New Jersey during the coming seasons.—R. L. Scharring-Hausen, N. J.

"Every farmer is urged to save his own seed by selection from the best producing strains on his own fields, thus insuring a supply known to be suited to the region in which it is to be grown. Reliance should not be placed on a prospective supply of imported seed."—U. S. Dept. of Agri.

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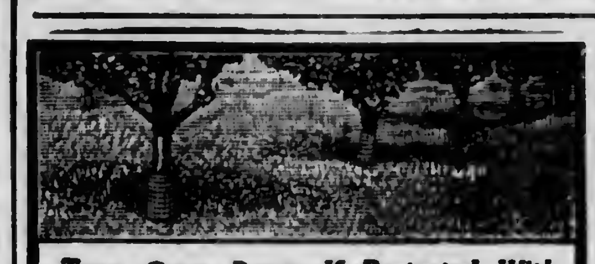

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PHILADELPHIA, PA., OCTOBER 27, 1917.

Secure Seed Corn Now

We wish we could impress firmly upon the mind of every farmer the necessity of securing next year's seed corn this fall. It has been prophesied that seed next spring will be ten dollars per bushel. Whether it is that much or not, it is sure to be very scarce and many farmers will feel under the necessity of using poor seed. In spite of the over-drawn statements to the contrary, first-class crops of corn—that is, well-grown, fully-matured crops—are scarce when compared with the world's needs. Altho the number of bushels may total billions, but a small percentage will make first-class seed. The late, wet spring and early frosts have seriously injured a great deal of corn so that it is immature, hence germination will be uncertain.

In all probability enough corn suitable for seed may be secured if careful selection is made now. If those who must buy from others will bespeak it from farmers whose corn fully matured, and have them pick it out this fall, then take it home and carefully dry and care for it, a serious situation next spring may be avoided. It is usually best to secure seed in your own locality if possible. DO IT NOW.

* * *

National Dairy Show

On the evening of October 18 the great Coliseum which Ohio has erected on the state fair grounds at Columbus was thrown open to a large and admiring multitude. A trumpeter in Khaki sounded the assembly, the band struck up the national air, the people stood uncovered, and the National Dairy Show of 1917 was on. First came the parade of cattle, under the efficient ring leadership of Thomas Bell. Then the representatives of the great draft breeds entered and were put thru their paces in true American fashion, for this was almost altogether an American horse show, the imported individuals being decidedly in the minority. The remainer of the evening was devoted to the regular horse show program. The dairy show proper is a wonderful collection of products, machinery and supplies. When one contemplates that all of this great aggregation represents the scope of an industry that is based on the product of the dairy cow it is to be impressed more than ever with the importance of the marvelous laboratory by which she changes feed and forage in the perfect food which comprises such a large portion of the food of the human race. This show is more than a mere collection of exhibits. It is a study in human progress—a college course in the most highly developed agricultural industry—an inspiration for better farming. Every farmer who can possibly arrange to spare the time should spend at least one day at the show. It will last until the 27th. It is the most logically arranged and withal the most attractive agricultural exposition that it has been our privilege to visit.

* * *

Liberty Loan

Subscriptions to the second Liberty Loan close on October 27. At this time, October 19, the loan is scarcely half subscribed. The full amount must be taken on the closing date. To fail in this would be equivalent to failing in the first great battle of the war. There must be no failures, and all must help. The purchase of liberty bonds is putting money at safe and profitable savings. Purchasers are not asked to donate the money; merely to lend it. And they will be lending on the best possible security and for the best possible purpose. The new bonds pay four percent interest and are free from all state, municipal and local taxes except state and inheritance taxes, and from all federal taxes except superincome and excess-profits taxes. For the farmer and the small investor this means freedom from all taxes on all Liberty Loan investments except inheritance taxes.

Four percent interest is all that can be secured from savings banks, and investment in these bonds is as safe as in any savings bank account. It is also as convenient. The bonds may be converted into cash at any time and are acceptable as security for any loan. Banks and trust companies are prepared to accept installment payments on bonds, and this arrangement makes it easy to open a regular savings account, with an absolutely safe-investment as the result.

We know that a great many farmers have no excess money to invest. We know that many, and perhaps most, farmers could well turn all of their savings back to the farm with advantage to themselves and advantage to the country in increasing future crop production. At the same time we know that many farmers do have money to invest, and we know that many are putting their money in places and investments that are not as safe or as profitable as these bonds are. There are farmers who have saved money for years only to be caught by some smooth, designing promoter, and fleeced of their life's savings. We have told our readers of the farmer who neglected to invest in the simple labor-saving devices for the farm and home in order to save up a little of the returns of the farm each year. We have told how a promoter of a fake copper mine got all of that saving, leaving the farmer and his wife to start all over in providing for the rainy day. We have told how the farmers of one county of Pennsylvania were swindled out of over $100,000 in one year by a land company. These things are occurring all of the time. This class of farmers can find no better place for their money than the Liberty Bonds.

And it must not be forgotten that unless the loans are made and this war is won, we will all face burdens in the next decade that will make these loans look insignificant. All citizens must help in the prosecution of the war. We must fight with men and with money. We must protect men already in the field, and we must prepare for the many more that will soon be on the way. We must act now.

* * *

Wake Up The National Grange

If ever there was a time when farmers needed a strong, active organization of national extent it is now. True, it has been needed many years, but the necessity has increased as life and business became more complex until now, when a national crisis exists, agriculture finds itself with no efficient organization thru which it can exert its potential influence on national affairs. Other lines of business are so organized as to be able to present a solid front, either in defence of their claims or in opposition to plans deemed inimical to their welfare. Agriculture, on the other hand, must be content with a quasi representation by public officials, or by the efforts of a comparatively few energetic farmers acting upon their own responsibility, or for local organizations. Still another class of agricultural spokesmen is composed of those who have no knowledge of, or sympathy with, the business of farming.

The grange may be named as the most nearly national organization of farmers in this country, yet, after half a century of existence, it is organized in but two-thirds of the states of the Union. This latter fact is largely due to the continued opposition of certain national leaders to pushing organization in the southern states, this in spite of the fact that the grange had its origin in the desire to help restore the destroyed agriculture of the South after the Civil War. During the first ten years of its existence the grange made a phenomenal growth, reaching a membership of over 850,000 in 1875—many thousands more than it has ever had since. This growth, which was largely in the North Central States, was due to the fact that the grange vigorously attacked certain wrongs and successfully brought to bear upon them the power of organized effort. It did not stop with mere resolutions and denunciations, but actually performed constructive service which gave to agriculture a square deal and a new standing. The leaders were fearless and non-partisan and dared to use their political power to bring about the economic changes necessary to give agriculture a fair chance. The grange was indeed a potent factor and it flourished because it was truly representing the farmer and fought his battles.

We firmly believe in the principles of the grange. We hope the day may speedily come when these principles, as contained in the Declaration of Purposes, will become realities and be espoused by all farmers. But in spite of this faith and this hope we are not blind to the deficiencies of the National Grange as a national order.

There are capable, energetic grangers in every community. There are hundreds of local granges which are carrying out the precepts of the order and have brought about many local improvements. Many Pomona, or county granges, are making themselves felt in various ways. A few state granges, under the wise leadership of zealous officers, have been instrumental in shaping legislation and executing laws. But granting all this, it is a matter of regret that the National Grange is not equally efficient as a national organization. It has been criticised within and without the order for avoiding or side-stepping action on vital matters. It has been charged with partisanship in political matters and with playing into the hands of antagonistic forces, or of seeking their approbation. The so-called reactionary element within the National Grange has, so far, succeeded in blocking progressive measures and has prevented aggressive participation in national matters which vitally affect agriculture. An indication of ineffectiveness is found in the fact that when active, organized effort is needed to perform a national or other extensive service, a new organization is necessary.

For some time, leading men have seen the necessity of co-ordinating all agricultural bodies into a national association with headquarters at Washington, so as to have a representative head to speak for agriculture. The National Grange officials have, so far, refused to join in the movement, altho many individual grangers have done so. The National Master is reported to have said, "I believe always in co-operation, never in federation." Master Wilson's principle is repudiated by the constitution of the United States.

The continued repetition of things achieved by the grange in the past fails to satisfy men who are looking for help in present needs, and most of the notable achievements are ancient history. Problems without number are now and have been needing a spokesman who can speak and act authoritatively for agricultural interests, but he is not. The National Grange is frequently passed by and ignored by the Government, not from malicious intent on the part of the public, but because of the known supineness of grange leaders.

This seemingly harsh criticism is made with the hope of stirring the rank and file of the order to an appreciation of the needs of the hour that they may demand greater activity on the part of the national order. We do not believe that continued self-flattery and the voicing of glittering generalities heard so frequently and read in the national organ are satisfying those who feel the need of competent, aggressive leadership.

The National Grange will meet next month in St. Louis. Let members and subordinate granges urge their state masters to stand firmly behind movements which would make of the National Grange the organization it poses as being and which it should be.

HARRISBURG NOTES

Expensive Advice. — Figures obtained at the Capitol show that Pennsylvania has paid over $3,000 as expenses and other charges incidental to the meetings and work of its State Commission of Agriculture. The commission has had but one or two conferences with Governor Brumbaugh who teemed last year with suggestions as to increasing the food production and who travelled 30 to 40 miles an hour to tour the agricultural regions to disseminate his ideas. The commission seems to have advised with the secretary of agriculture on advising the farm advisors and others about their work. Meanwhile figures show that Pennsylvania farmers have responded in a wonderful way to the national call for more wheat and more food, altho the governor vetoed the bill to give the commissioners a salary and they have met but seldom.

More Commissions.—The governor has named a half dozen commissions to make studies of such matters as old age pensions, health and accident conditions and prison affairs, while other bodies are to revise the banking, penal and other laws. Much of this work could be done by the well equipped Legislative Reference Bureau without necessity of duplicating expenditure of money already available for carrying out the policy of codifying statutes or could be handled by the various existing branches of the government in charge of such affairs. With the exception of the monumental work of the commission to codify laws relative to decedents' estates and of the school code commission, most of the compilations of laws have been worked out by state authorities including borough and township codes, the game, fish and dog statutes, the health and charity, and the militia and highway laws. Old age pension systems and insurance of health are attractive subjects, however, and something may come of them if factional politics are forgotten.

Truck Traffic.—From all accounts the truck traffic over Pennsylvania highways has been jumping at an amazing rate this fall and there are many reports of much damage done by the immense motor vehicles in use. Railroad congestion has been so great that truck lines are now operating between some cities and the effect upon highways is assuming proportions which may force a change in the plans for next year. By direction of Highway Commissioner O'Neil, a study of roads much used in this truck traffic and of the character of the movement will be made. Considerable traffic to farms for produce is reported in some eastern counties, commission men sending big machines out to gather supplies.

Poultrymen Unite.—The poultrymen of the state will forget rival organizations and unite in one big state association. The meeting held here Saturday was important in that it showed necessity for egg shippers and farmers to get together for protection against loss in shipments. Statements were made showing little or no protection from loss by express shipments, even where a dozen eggs have disappeared completely from a box. State officials offered to take charge of such complaints and it may be that the new Bureau of Markets may be able to make such a presentation that it may end the abuse thru public sentiment if not by law.

Shareholders' Rights.—The public Service Commission recently declared that being a stockholder in a so-called "farmer line" does not carry with it rights of service unless an agreement on the subject is made. It is also held that if application for service is made in a proper way and it is refused, the matter is a subject for complaint.

Milk Reports. — Detailed reports are being prepared on the milk situation investigated in the Pittsburgh and Lancaster districts, but it is doubtful whether they will be printed as no funds seem to be available. The reports are very extensive, but thus far have failed to get into the printing class. Possibly if the milk reports could be boiled down they could get by as emergency publications.

Ship to Local Markets.—The State Department of Agriculture is issuing letters to its agents thruout the state to urge farmers to ship to local markets in order to relieve transportation systems and at the same time to get better distribution. In many counties this has been done thru curb markets.

Cereal Production. — Figures on wheat, rye and oats production by counties have been issued by the bureau of statitistics. Lancaster, York, Franklin, Berks, Cumberland and Chester Counties each produced over a million, Lancaster leading with three million bushels. About ten counties produced half the wheat crop of over 26,000,000. Counties which have large industries show a falling off in wheat production in most instances. The rye crop of 4,573,250 bushels is much more evenly divided. Berks, Northampton, Bucks, Lehigh, York and Schuylkill lead as they did last year, but most of them show a decline in production as contrasted with jumps in the wheat leaders. Berks leads the oats producers with 1,659,177 out of a total of 38,800,769. Bradford, Westmoreland, Somerset, Washington, Butler and Tioga Counties follow, all in the million-bushel class.

Crop Reports. — Late figures on crop reports show sweet potatoes as 114,000 bushels against 100,000 estimated for 1916; onions, 102,000 against 75,000; pears, 436,000 against 509,000.

Farm Labor Exemption. — In the last few weeks reports tell of tendency of draft boards to be more liberal in regard to farmers; especially where dependency and necessity to keep farms going is shown.—Hamilton, Harrisburg, Oct. 22.

NEW YORK NOTES

Meatless Tuesdays. — The Hotel Men's Association has voted to institute a meatless Tuesday in place of beefless Tuesdays beginning next week. They also voted to have a wheatless Wednesday every week. A reduction in the price of beef and other meats is expected to occur following the operation of this idea.

Accused of Souring Milk. — Two milk drivers in New York City were arrested last week for souring, with chemicals, the milk in bottles delivered to a member of the co-operative milk association recently organized by the grocers. The members of the association testified that they had been threatened with soured milk if they did not return to their old dealers. This is merely one of the methods of the dealers' trust to force the trade. Last Saturday co-operating farmers near Utica contracted to sell Grade B milk to grocers in New York City at 9 cents a quart, two cents above the much investigated price set by the members of the Dairymen's League for milk at wholesale for October and November. The extra two cents pays for pasteurizing and transportation, and the grocers retail it at 10 cents a quart, realizing their usual profits. The consumer thus gets a superior milk at 4 to 5 cents a quart cheaper than the dealers charge, proof conclusive of the ease of distributing milk at reasonable prices. Yet there are four milk investigations under way in New York City at present, all aimed at the farmer. The farmers' organization is new and comparatively without money, therefore safe to attack in a grandstand play meant to impress the "dear people" whose votes are badly wanted just now.

New Food Commission Ready. — Formal conferences are being held in New York by representatives of both the federal and state food commissions. Communications were presented from up-state farmers showing that agriculture there is handicapped by scarcity of labor. Delays in coal shipments had put threshers out of business for long intervals, greatly handicapping the harvest.

Crop Notes. — New York State leads in cabbage production this year with over 70,000 acres, against 40,800 last year, with an estimated crop of 349,680 tons, or almost four times last year's crop. It is being sold at $20 to $26 per ton at present. Enormous increases in the production of beans and onions are announced by the U. S. Department of Agriculture. Onions are selling at $1.75 to $2 per bushel. Choice hay has recently brought as high as $18 altho lesser prices prevail. Heavy frosts have cut much silage corn upstate where the late harvest and scarcity of help had delayed securing the crop. Very few potatoes are dug as yet. Some fields are so smitten with rot as to be worthless. Quite a few new silos have been erected in central New York, altho scarcity of help has hindered the work badly. —F.

Read Community Buying of Dairy Feeds, telling how the farmers of one community save money buying feeds in carload lots, how they manage the buying and how they satisfied the local dealers. Also read second installment of illustrated article on Tile Drainage.

NEW JERSEY FARM NOTES

Potato Shipments.—New Jersey is now shipping about a hundred carloads of potatoes a day. A statement from the Department of Agriculture suggests that with all other food stuffs high in price it is practically impossible that potatoes will go down in price. People are buying potatoes in five-bushel lots this year as never before. Even city tenement cellars are housing sacks of potatoes near windows where the cold air can aid in their keeping.

Geological Survey. — The Statehouse Commission announces that the survey made by the geologists of the state shows extensive lime deposits upon the state farm, recently purchased at Annandale, Hunterdon County, for the site of an insane institution. These deposits will be developed by boys from the Rahway Reformatory and lime supplied to the farms connected with the different state institutions. The surplus lime will be sold to the farmers of the state at a low price thru the experiment station at New Brunswick.

Grange Meeting. — The State Grange will hold its annual meeting on the first Tuesday in December at Atlantic City. Senator George W. F. Gaunt, Master of the Grange, is reported to be recovering from his recent serious illness.

Direct Buying.—Transactions of business between groups of consumers and groups of producers of farm stuffs is reported to be making marked progress in New Jersey. The Bureau of Markets is securing the names of farmers living in the same community and of small farmers' co-operative associations ready to do business with reliable groups of consumers who need food. As a result of bringing the two forces together, large quantities of farm produce are reported as being exchanged with a minimum amount of handling and expense. The Paterson Employers' Association, an organization of factory owners in that city, has purchased graded potatoes from a Mercer County organization of farmers and has delivered these potatoes to the homes of their employes on their orders. The wholesale price as paid by the association was charged the employes, and a percentage of the cost was taken from several successive weeks' wages.

Bureau of Markets.—The Bureau of Markets is giving valuable assistance in transportation of foods. Many individual shippers reported loss of express shipments. Shippers of eggs have complained of breakage, due partly to careless handling by express companies. In the first instance the inspectors of the bureau traced the lost shipments and, in most cases, secured their arrival at destination. Regarding egg shipments, one official of a large express company called a conference of his employes and impressed upon them the importance of careful handling. Complaints have since ceased. A Bureau inspector investigated the need of cars prior to the shipment of potatoes, and the railroads have been able to keep such a good supply of empty cars on siding that shippers themselves were surprised. It was discovered that some potato shippers were using cars for storage and were paying demurrage on them in expectation of market advances. This naturally reduced the number of available cars, and the inspector presented the matter to the farmers and shipping authorities, resulting in a reduction, in one instance, from several hundred on a siding to ten within three days.—L.

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FARM MEETING CALENDAR

National Dairy Show, Columbus, O., October 18-27.

Sheep Show, Utica, N. Y., October 30-November 1.

American Pomological Society, Boston, Mass., October 31-November 4.

Short Courses in Agriculture at Cornell University, open November 7.

Association of Agricultural Colleges and Stations, Washington, D. C., Nov. 14-16

Short Courses in Agriculture at Rutgers College, New Brunswick, N. J., open Nov. 20.

International Live Stock Exposition, Chicago, Ill., December 1-8.

New Jersey Horticultural Society, Newark, N. J., December 10-12.

Pennsylvania State Grange, Williamsport, Pa., December 11-13.

Palace Poultry Show, New York City, December 11-15.

Maryland State Grange, Belair, Md., December 11-13.

Maryland Agricultural Societies, Baltimore, Md., December 18-21.

Madison Square Poultry Show, New York City, December 28-January 2.

SAVES WOMEN'S STRENGTH
No stooping—no reaching over. milk can with the Dairy Queen. Sold direct to you. And the price is *right*.
Enclosed All-Gear Drive, No Chains; Close Skimming Sanitary Bowl, Easily Cleaned; Splash-Oiling System, Light Running; Low-Down Tank—Simple, Durable, Sanitary.
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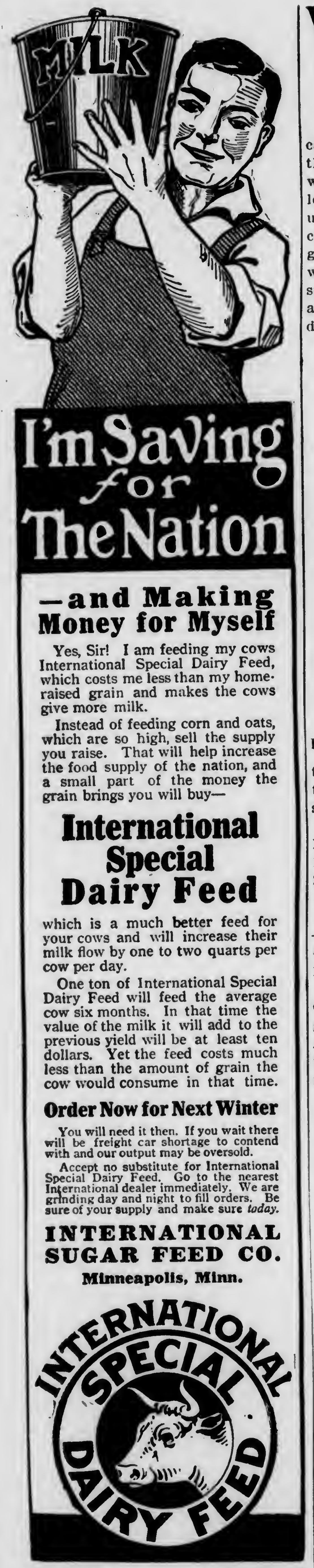

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—and Making Money for Myself

Yes, Sir! I am feeding my cows International Special Dairy Feed, which costs me less than my home-raised grain and makes the cows give more milk.

Instead of feeding corn and oats, which are so high, sell the supply you raise. That will help increase the food supply of the nation, and a small part of the money the grain brings you will buy—

International Special Dairy Feed

which is a much better feed for your cows and will increase their milk flow by one to two quarts per cow per day.

One ton of International Special Dairy Feed will feed the average cow six months. In that time the value of the milk it will add to the previous yield will be at least ten dollars. Yet the feed costs much less than the amount of grain the cow would consume in that time.

Order Now for Next Winter

You will need it then. If you wait there will be freight car shortage to contend with and our output may be oversold.

Accept no substitute for International Special Dairy Feed. Go to the nearest International dealer immediately. We are grinding day and night to fill orders. Be sure of your supply and make sure *today.*

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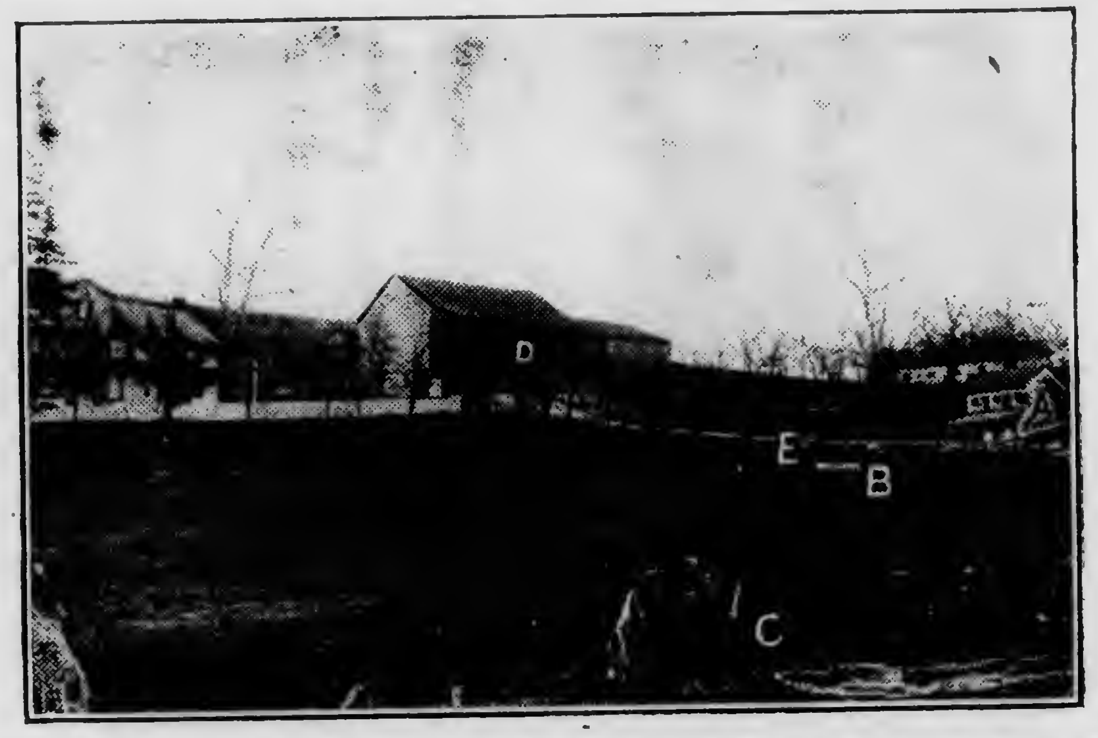
Cream Separator A Simplex for sale. Good as new. Capacity 900 lbs. Owner has no use. Cost $90—will take $55. FRANKLIN PACKER, NEWTOWN, PA.

War Time Rations for Cows

Grain Mixtures for Various Roughage Feeds

By PROF. FRED RASMUSSEN

The present high prices of feed call for the exercise of careful forethought in selecting the feeds that will produce the most milk at the least cost. These rations are made up with special reference to economical milk production. In addition to grain, feed all the roughage the cow will eat. More roughage will be consumed if it is fed three or four times a day rather than two or three times daily.

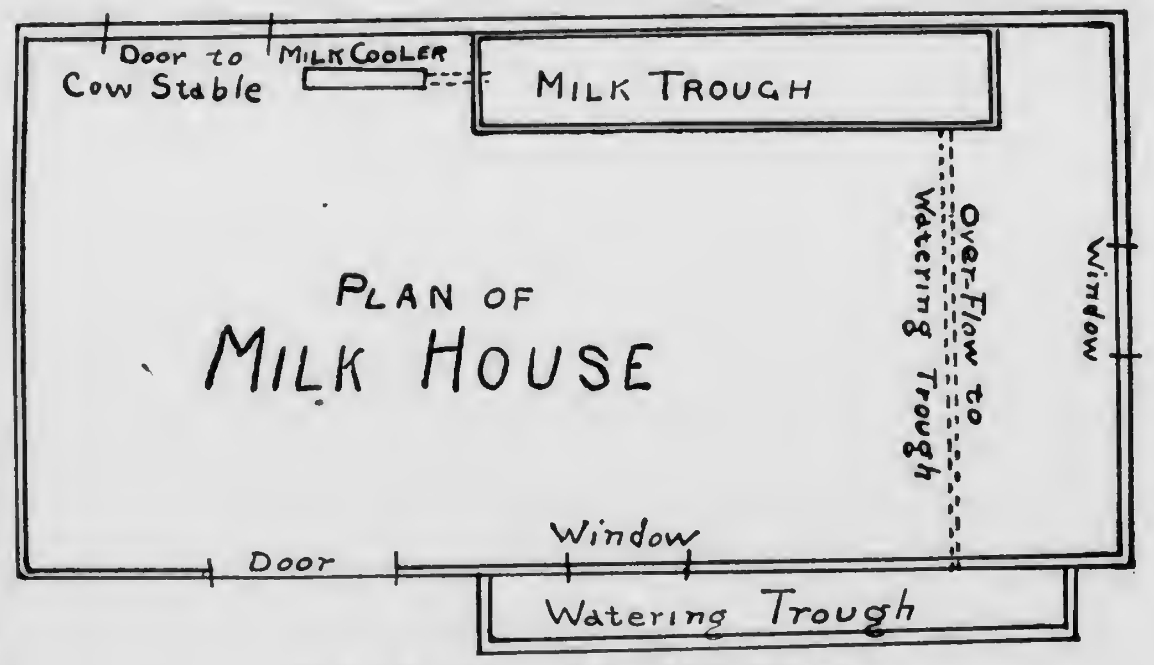


Layout of Hydraulic Ram Water System on H. D Rees Farm, Chester Co., Pa.

Ration No. 1.—When roughage is timothy hay and corn stover, or timothy hay and silage or mixed hay and silage:

Lbs.	Feed	Lbs. Protein	Therms Energy
100	Wheat bran	11	53
200	Cottonseed meal	64	180
50	Gluten feed	10	40
50	Linseed meal	14	44
400	Mixture contains	99	317
100	Mixture contains	24.8	79.3

Energy ratio 1 to 3.2. To a Guernsey or Jersey cow, feed 1 lb. grain for every 4 lbs. milk. To an Ayrshire, Holstein or Shorthorn cow, feed 1 lb. grain for every 4½ lbs. milk.



Water Supply in Rees' Milk House.

Ration No. 2.—When roughage is timothy hay, or timothy hay and corn stover, or timothy hay and silage, or mixed hay and silage:

Lbs.	Feed	Lbs. Protein	Therms Energy
100	Brewers' dried grains	20	53
50	Corn & cob meal	3	38
200	Cottonseed meal	64	180
100	Linseed meal	29	89
450	Mixture contains	116	360
100	Mixture contains	25.7	80

Energy ratio 1 to 3.1. To a Guernsey or Jersey cow, feed 1 lb. grain for every 4 lbs. milk. To an Ayrshire, Holstein or Shorthorn cow, feed 1 lb. grain for every 4½ lbs. milk.

Ration No. 3.—When roughage is mixed hay, or mixed hay and corn stover, or clover hay and corn silage:

Lbs.	Feed	Lbs. Protein	Therms Energy
100	Wheat bran	11	53
200	Gluten feed	40	162
50	Cottonseed meal	16	45
350	Mixture contains	67	260
100	Mixture contains	19.1	74.3

Energy ratio 1 to 3.9. To a Guernsey or Jersey cow, feed 1 lb. for every 4 lbs. milk. To an Ayrshire, Holstein or Shorthorn cow, feed 1 lb. for every 4½ lbs. milk.

Ration No. 4.—When roughage is mixed hay, or mixed hay and corn stover, or clover hay and corn silage:

Lbs.	Feed	Lbs. Protein	Therms Energy
100	Corn & cob meal	6	76
100	Cottonseed meal	32	90
50	Gluten feed	10	40
50	Linseed meal	14	44
300	Mixture contains	62	250
100	Mixture contains	20.6	83

Energy ratio 1 to 4. To a Guernsey or Jersey cow, feed 1 lb. for every 4 lbs. milk. To an Ayrshire, Holstein or Shorthorn cow, feed 1 lb. for every 4½ lbs. milk.

CHEAP BUT EFFICIENT WATER SYSTEM

I am sending a sketch of the water system installed on our place and showing the arrangements we have fitted out to save steps. If anyone can improve on it, I would like to see it. In installing this system it was with the object of eliminating unnecessary steps, both in the house and barn. The water raises in a never-failing spring marked in the photograph, A, and is piped thru a four-inch iron pipe about sixty feet to a concrete box or water head, marked E. Bringing the water such a distance was done with two objects: First, to dig a short ditch deep enough to give sufficient fall to a hydraulic ram would have a tendency to drain the spring if placed close by; second, we wanted to bring it across the lane and not interfere with the road bed.

The water is carried thru a two-inch pipe from the water head to the ram, which is located in the bottom of a ten-foot ram pit. The drive pipe is about thirty feet long with a fourteen-foot fall. The drain from the ram runs thru four-inch terra-cotta pipes over 300 feet to the creek, the outlet marked C. The water is forced by the ram thru a one-inch pipe about 500 feet, with a raise of 40 feet to two 400-gallon tanks in the upper story of the barn, directly over the milk room. The letter D represents the location of the tanks.

The water from the milk cooler and the overflow from the tanks run into a cement trough in the milk room. The overflow from the milk trough runs across, under the concrete floor, to the water trough outside of the milk house; and the overflow from the water trough runs to the hog pen, about 300 feet away. A float tank supplies the individual drinking cups in the cow stable, and a pipe runs to the house with sufficient pressure to force the water to the third story of the house.

This system was installed six years ago for $175, including material and plumbing. The digging was done by the regular farm help. The kitchen stove is placed in an old open fireplace. Over the stove is ceiled with zinc, the smoke pipe running straight from stove thru the zinc. The wood closet is a hole in the wall, 2x3 feet, with doors opening into both kitchen and wash house. The bottom of the wood closet is level with the top of the stove. The scalding barrel is buried in the ground and covered with a lid that is level with the floor of the wash house.

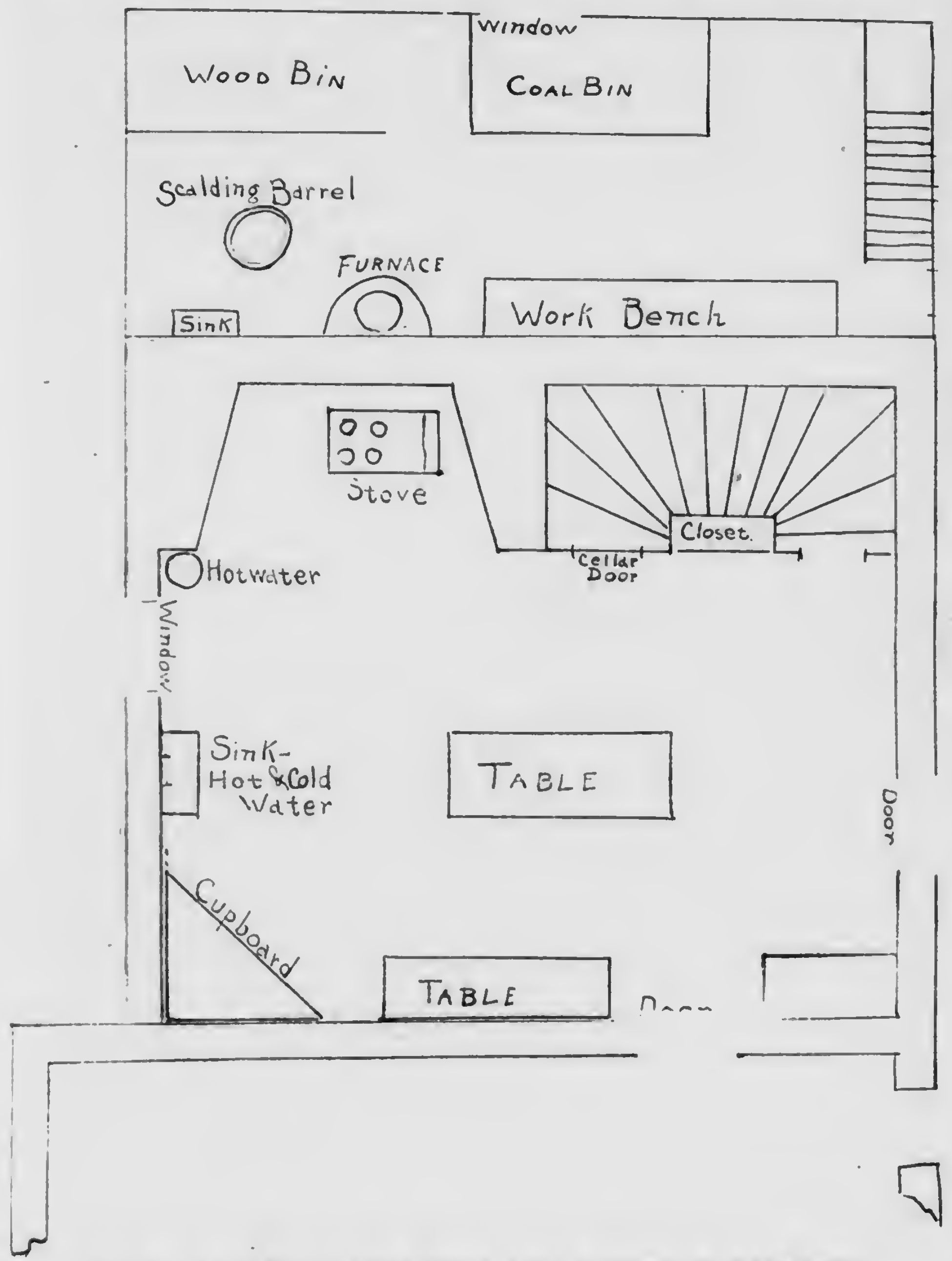
It is perhaps more satisfactory to install these necessary conveniences in modern buildings, but we must work out the best we can when working with stone houses built nearly 200 years ago.—H. D. Rees, Chester Co., Pa.

INTERSTATE MILK PRICES

The Executive Committee of the Interstate Milk Producers' Association announces an advance of ten cents per cwt. to members, beginning Nov. 1. This advance will make the new price f.o.b. Philadelphia $3.97 for 3 percent milk, $3.14½ for 3.5 percent milk, $3.33 for 4 percent milk and $3.49½ for 4.5 percent milk. Reduced to a quart basis, this means about 6.4 cents per quart for 3 percent milk, 6.75 cents per quart for 3.5 percent, 7.15 cents per quart for 4 percent and 7.52 cents per quart for 4.5 percent milk. These prices are subject to reduction of 23 cents per cwt. for receiving station charges, hauling, etc.

It is understood that this advance will not be followed by an advance to the consumers and will not affect the consumption. Together with this small advance the producers will have the advantage of lower freight rates under the recent ruling. The freight reductions were put into effect in October by the Pennsylvania Lines, and it is understood that the Reading will follow with like reductions on November 15. Full details on price and rates will be published next week.

It is generally conceded that the new price will not cover cost of production at present prices of feed and labor. The future of the feed market is uncertain, but the experience of the New York producers indicates that there is a limit to the price beyond which consumption is greatly curtailed and the surplus becomes a real problem. The next logical move of the producers would seem to be the care of the surplus, or a change in method of distribution which would yield the producer the cost of production without putting the product out of reach of the consumers.



Kitchen and Butchering Shed Arrangement in Rees Farm.

REDUCING FEEDING COSTS

Using Soy Bean Hay

With the high prices of feeding-stuffs, we farmers, and especially those who are renters, experience a taste of what it means to purchase feeding-stuffs. With prices going higher and indications being that there will be little, if any, reduction, there will be little chance for us to expect much mercy when we are compelled to purchase feed the coming winter. In view of these facts we were in a quandary as to just what to do to solve the feeding problem. After considerable thought and careful planning, here is what I have done to keep down feeding costs this coming winter.

Of course, we shall be compelled to purchase some dairy feed, etc., but we expect this to be kept at low tide, especially if our plans are dependable. To begin with, we have raised considerable rye which we expect to use for hog feed, thus releasing a large portion of our corn crop for other stock. We have a large quantity of corn stover coming on which will be shredded into the barn direct from the husker. In addition to this, we will have several loads of soy bean straw just as soon as the soy beans are threshed. This will make excellent roughage as it is said to contain as much food value as corn stover. We have several loads of soy bean hay, as well as considerable timothy hay. Of oats we have only a small quantity because we seeded soy beans instead of oats, and use soy bean hay for our horses in connection with timothy hay, and we find that we need very little grain excepting when we work them hard.

The only mistake I now see in my spring plans is that I did not seed more soy beans for hay, for now we need it for the horses and also for the cows. But with the feeds named above we can certainly manage to tide over the feeding season. The main thing now will be to arrange our ration and feed accordingly.

The reason we expect to resort to the use of soy bean hay as a part of our feeding ration is because of the high protein value, and also the easy matter it is to raise this hay. Just the other day my father remarked that we have not put up any hay this year that was of as little trouble to us as the soy bean hay. We have had so many successful feeders report to us the fact that this hay cuts the feed bill so much that we decided to use it. Last year we had only a small quantity which we fed to the dairy cows, and let me say that when the soy bean hay supply was exhausted we did not need to go to the barn to see it. The milk buckets proved it.

Everybody knows the place wheat bran has in many rations, and also the price it generally has. When we consider that the analysis of bran and soy bean hay are practically the same, and that 1½ to 2 percent of soy bean hay can be raised per acre, we shall see why so many successful feeders use it. Whether we shall land safely on the shore of next spring by following these plans remains to be seen, but we feel that we should be able to follow when others have blazed the trail.—Warner E. Farver.

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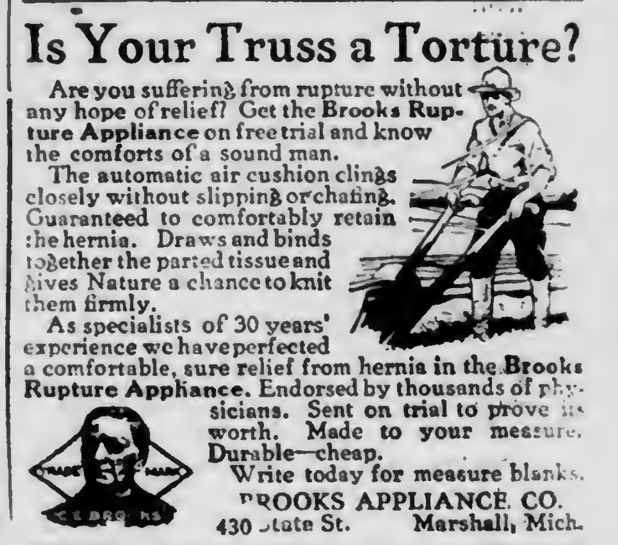

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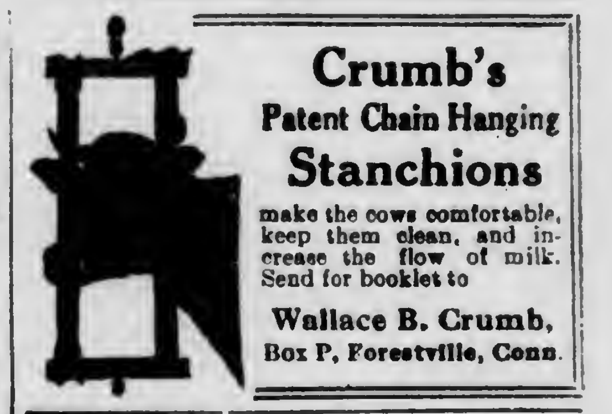

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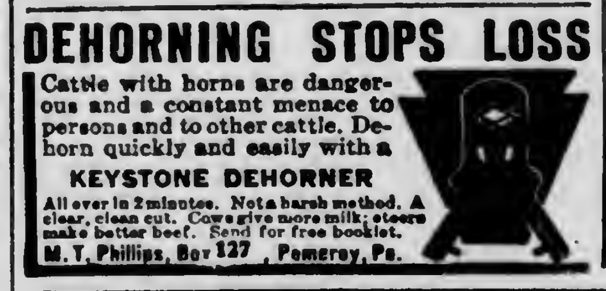

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PENNSYLVANIA FARMER
261-63 S. Third Street, Philadelphia, Pa.

NOT MAGIC, BUT STUDY AND WORK

We often hear people speak of butter making as if it were some magic process to be acquired by the payment of a certain sum of money to a teacher. The real butter maker, he who has gained a sure place in his profession, and who has the satisfaction of knowing that there is a good demand for his product, knows that there is no magic about it, but that the art can be mastered only at the expense of downright hard work and study.

In the case of the writer, it has been more than a quarter of a century since we began to make butter, and altho we have been careful and ready to learn from any and every source, we do not claim even now to have mastered the art. We keep learning, and we are sure that it will always be so.

For example, lately we have discovered things about ripening cream that we never knew before, and we see that we have lost a good deal of money for the simple reason that we did not know just how to care for this particular part of making butter. This discovery came quite by accident. A son of ours was having trouble with his churnings. We were satisfied that he was not getting all the butter out of his cream. The pigs and calves were getting the benefit, of course, by reason of having pretty rich buttermilk; but it seemed prretty expensive, after all. He and his wife called us to the rescue and it was the good woman of our home who decided, one night in a wakeful moment as she was thinking over the situation, that the fault was with the ripening. This proved to be true and the next morning we set about to remedy the difficulty, with the result that now that loss has been cut off.

Here is our method of caring for cream and churning. In the first place, as soon as the cream comes from the separator, we cool it down. This is done by setting the newly separated cream into a galvanized tub of water right from the well and stirring it continuously until the animal heat is all out of it. Then in warm weather the cream pail is set in the cellar to be at as nearly a uniform temperature as possible while ripening. If it is then brought out, the ripening will progress very fast, so that the churning may be done about at will. If the weather be cold or cool, the cream is left to stand near the stove in a room where the air is good, and stirred every little while with a long-handled dipper made for this purpose, which may be had at any place where dairy supplies are sold. Here the ripening goes on more slowly, but can be regulated very well.

Another secret of ripening is never to put newly separated cream in with that which is older without stirring very thoroly clear to the bottom, so that the whole shall be really one mess. Many a failure may be traced directly to imperfectly consolidated messes of cream. The churning never can be done perfectly: always some of the butter will remain in the part which has not been well ripened. Nobody can stand this loss.

Still one more thing we have learned, and that is not to put too much cream in the churn at a time. Churning is a process of concussion. That is, the butter is pounded out of the cream by the contents of the churn falling from end to end of the barrel. If the fall is not great enough and hard enough, it will be impossible to separate all the butter from the cream. By watching this we have come to the conclusion that the churn should never be more than half full when we begin churning. I would rather have less than more. Then the blows are sharper and harder, so that time is saved in churning, as well as more butter gained.—E. L. Vincent, Broome Co., N. Y.

POINTS PICKED IN PRACTICAL WORK

Photographs.—Clear photographs of the postcard size are of value in selling purebred dairy cattle. Prospective buyers who order stock from reading an advertisement will usually be more ready to purchase an animal after seeing a good photograph showing the animal as it looks before the camera.

Purebred Care. — The farmer who desires a purebred dairy herd must go slowly in order to make the venture safe. It pays to start on a small scale and build up the business as the experience and profits warrant the increase. A farmer who spends all his money for purebreds and then neglects to feed them right will soon find the venture unprofitable. Well bred stock which has been accustomed to good care will not thrive on a farm where the owner has been giving "scrub" care to scrubs unless the methods are changed.

Organization. — Every dairy farmer should join his local association of dairymen or organize such an association if none exists. Breeders of purebred dairy cattle will find that it pays to affiliate themselves with the national organization which is striving to improve their breed. When feed is high and farmers are marketing their dairy cattle it pays to prepare for a reaction and higher prices for good cows. A real dairyman does not like to market his herd and go out of a business that he understands just because the profits are not up to the standard. How much better it is to join a good organization which will assist in educating consumers concerning the value of dairy products. Then we can expect a better deal for the dairymen. At present city buyers are too prone to remember the price they paid for milk twenty years ago. They forget the general increase in the cost of producing first-class milk.

Stabling.—The best friends of the dairyman are sunshine and fresh air. To make dairying profitable the herd must be in the best physical condition and tuberculosis must be absent. Sunshine is the destroyer of disease germs. It pays to construct the barn windows so that the sun can shine into the gutters behind the cattle and assist in keeping them clean.

Fresh water is important in keeping up a maximum flow of milk and the dairy cattle should always be provided with a plentiful supply. Dirty water is dangerous and if stagnant pools now exist in the barnyard or pasture they should be drained off or fenced in such a manner that the stock will not have access to them.

The Scrub Bull. — More purebred bulls are needed in every farming community where the farmers now have to travel several miles or accept the services of a scrub bull. In some sections the co-operative ownership of a bull will prove very profitable. Farmers who own purebred bulls should be encouraged by receiving their service fees promptly. Beating a farmer out of service fees is one of the meanest tricks and there are communities where this has occasionally been practiced. The farmer who buys a purebred bull and allows his neighbors to use it for a moderate fee is conferring a favor upon his community and this should be appreciated.—K.

Milk is one of the cheapest foods, even if it sold for more than it does now.

The New Edison Diamond Amberola—Model 50

Try EDISON'S 1918 AMBEROLA in your home

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We could tell you that the Amberola reproduces songs so naturally that, when you turn your back and close your eyes, it is difficult to believe that the living artists are not actually in the room. We could write whole pages in an effort to convince you that the New Edison Diamond Amberola is a musical instrument indispensable in your home, but one note of the voice of Anna Case singing "Annie Laurie," or one ripple of music from the bow of Albert Spalding playing "My Old Kentucky Home," would convince you as no printed words ever could.

We could tell you that the New Edison Diamond Amberola has a GENUINE DIAMOND REPRODUCER (no needles to change). We could tell you that Edison Blue Amberol Records are almost unbreakable and unwearable. We could tell you many other wonderful things about the New Edison Diamond Amberola and Edison Blue Amberol Records, but the Amberola itself can tell you in its own music language far better than we can.

HEAR MR. EDISON'S AMBEROLA BEFORE YOU PURCHASE ANY PHONOGRAPH OR TALKING MACHINE, WHATEVER NAME IT MIGHT HAVE. And when you do hear the Amberola, hear it in your own home right where you would expect to use it after you bought it. Just give it a few days' trial and it will sing and play itself into your heart and your life so that you will never want to part with it even at many times its cost.

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HEART-SONGS
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Ben Bolt
Juanita
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SACRED SELECTIONS
Abide With Me
Beyond the Smiling and the Weeping
Crossing the Bar
Glory Song
I Love to Tell the Story
Dreams of Galilee

BALLADS
Only a Pansy Blossom
Silver Threads Among the Gold
I'll Take You Home Again, Kathleen
Take This Letter to My Mother
Only to See Her Face Again
When You and I Were Young, Maggie

BANDS
America, I Love You
El Capitan and Manhattan Beach Marches
Cavalry Charge
Boston Commandery March
Blue Danube Waltz
Heart of America March
Garden of Roses Waltz
Passing Review—Patrol

PATRIOTIC RECORDS
America, I Love You, March
Dixie
My Country, 'Tis of Thee (America)
We're Tenting To-Night
American Fantasie
Yankee Doodle

MARCHES
Dominion of Canada March
Boys of the Old Brigade March
Ben Hur Chariot Race March
Athol Highlanders' March
National Emblem March
Spirit of Independence March

MEDLEYS
Bonnie Scotland Medley
Medley of Country Dances
On Parade Medley
Fisher's Hornpipe Medley

INSTRUMENTAL SOLOS
Alexander's Ragtime Band (Banjo)
First Heart Throbs (Bells)
Dancing on the Housetop (Bells)
Carnival of Venice (Accordion)
Bonnie Scotland Medley with Variations (Xylophone)
Czardos (Harp)

VAUDEVILLE
Town Topics of Punkin Center
My Uncle's Farm
Insect Powder Agent
Golden Wedding
Funny Doings at Sleepy Hollow
Mrs. Clancy's Boarding House

QUARTETS
Alone in the Deep
Don't Stop
Kentucky Babe
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Sally in Our Alley
When the Roll Is Called Up Yonder

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PREPARING THE FLOCK FOR WINTER

By J. RAYMOND KESSLER, Chester County, Pa.

September and October are the harvest months of the poultryman. It is then that he sees the results of the year's work in the flock of coming winter layers. It is time now that all the jobs of fumigating, cleaning and repairing be accomplished without delay for as soon as the first eggs of the young pullets are found the moving of the new stock to winter quarters should take place.

A Good Type of House for 12 Hens.

Many make the mistake of leaving the young pullets out in the colony coops until the bad weather of winter sets in, then they must be rushed into the winter quarters and perhaps kept entirely housed for the rest of the winter. Nothing will do more damage to the production of one's flock than this last-minute rush plan. At that time the older pullets are well started in their laying and the moving from range to confinement entirely upsets them. Thus the advantage of moving the flock to winter quarters early in the fall is that the laying is started in the new quarters while the flock can still have the freedom of the outdoors. Then as winter closes in, the flock can gradually be more closely confined so that all changes are made gradually.

A Profitable Commercial Plant.

Don't Overcrowd the Houses

After the winter quarters are in order the first thing the poultryman should do is to determine the number of fowls his housing will allow him to keep. The temptation to overcrowd the available quarters is very often a hard one, especially when one has an extra large flock of fine pullets. However, results will be far better if one keeps only as many fowls as there is housing for.

The amount of floor space necessary depends to a very great extent upon the number of fowls to be kept in one flock. Flocks of from twenty to twenty-five birds should have about five square feet of floor space per bird, say a pen ten by twelve feet in size.

Where flocks of one hundred birds or over are kept in one pen from three and a half to four feet of floor space per bird is sufficient. The popular size of pen for one hundred birds is twenty feet square, and the poultryman will find that this arrangement of one hundred birds to such a pen will give maximum results with a minimum of labor. Larger flocks may cut labor to a certain extent, but production is usually smaller in very large flocks.

There is also such a thing as having too much floor space especially in winter for where there is too much space the fowls can not develop sufficient heat to keep warm. This is especially true of small flocks of say fifteen hens or less.

One of the most important things to look to at this time is that the roosting quarters are in good condition for winter. Any cracks that may have developed from the heat of the summer should be attended to and every effort made to have tight draft-proof roosting quarters for the winter The ideal roosting quarters are those built against the back of the pen, running the entire length; the back, roof and sides of the house forming with the droppings board a real closet.

Then by hanging a curtain of muslin that can be raised and lowered in front of the roosts, the closet is complete. For a flock of one hundred hens in a pen twenty feet square the closet should be twenty feet long and have a droppings board four feet wide. This allows space for three twenty-foot lengths of roosts, one foot apart and allowing a foot of space from the first roost to the edge of the droppings board and the same space from the last roost to the back wall. A roosting closet of such size and construction will keep a flock of one hundred hens comfortable on the coldest winter night. For smaller flocks the roosting quarters should, of course, be built in proportion.

From the standpoint of results it has been found that adaptations of the open front house are best. A majority of successful poultry plants are using the shed roof house with an average hight of six feet, say seven and a half feet in front by five feet high in back, with the front constructed of about one third each of lumber, glass sash and muslin covered openings. This type of contruction has in our experience given the very best results.

Skillful Feeding the Most Important

Perhaps, after all, the most important thing in caring for the young pullets is the feeding of the flock. As a usual thing the flock of young pullets has, up until this time, had nothing but a growing ration. This must now be changed to a more concentrated ration in order to encourage production.

The following plan of feeding the layers has with slight variations been followed by us for a number of years with excellent results.

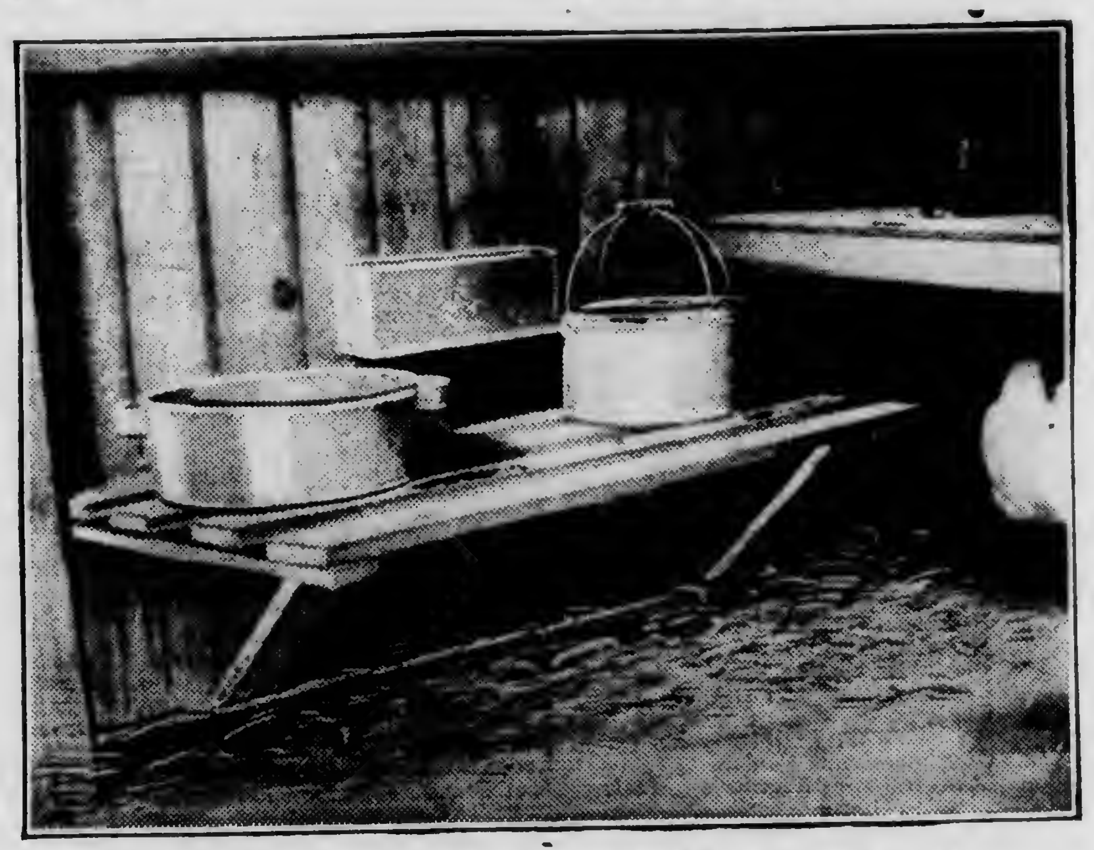
The hens, on coming off of the roosts in the morning, find grain in the litter consisting of equal parts corn, wheat and oats, altho since the high price of wheat the grain mixture has consisted mostly of equal parts cracked corn and oats with perhaps the addition of some kaffir corn. The grain allowed at this feeding is about a quart to each twenty-five hens, varied, of course, to suit the appetites of the fowls. The hunting for this grain keeps the flocks busy until the house has warmed up. About ten o'clock green food, consisting of either cabbage, sprouted oats or mangles, is fed. The cabbage and mangles are allowed in such amounts as the flock will clean up during the day. In feeding sprouted oats such amounts are given as the flock will eat in ten or fifteen minutes.

At noon a moist mash is fed, consisting of the following materials: 200 lbs. wheat bran, 100 lbs. corn meal, 100 lbs. middlings, 100 lbs. linseed meal, 100 lbs. gluten, 100 lbs. alfalfa meal, 100 lbs. ground oats, and 200 lbs. beef scraps. To four buckets of this mash is added one bucket of short cut alfalfa or clover that has been soaked in hot water for several hours. The mash and short-cut hay is thoroly mixed and fed in V-shaped troughs. The hot water in which the cut hay is soaked makes the mash warm for feeding. The mash is made only moist, not sloppy. An allowance of eight quarts to every one hundred hens has been found about right. This, of course, must be varied to suit the appetites of the fowls.

At four o'clock, the hens are again fed grain in deep litter in about the same amount as is given in the morning. This feeding keeps the hens busy until they go to roost, when grain is again scattered in the litter for the morning feed.

Starting the Pullets on the Egg Ration

When this method of feeding is used with young pullets just starting to lay, the linseed meal, gluten and beef scraps are used in only half the quantities mentioned and the amount of feed allowed is not as great. The richness of the mash mixture and the quantity fed are gradually increased so as to encourage egg production, but this is always done slowly, taking as long as six weeks to put the pullets on full rations. If the production does not then come up to the desired point, the corn meal, beef scraps and linseed meal are increased a little more. After the desired production is obtained the feed mixture is brought back to normal, for such heavy feeding is likely to cause fatty degeneration of the egg organs, thus defeating the purpose in view.



A Good Arrangement for Water and Feed Containers.

Young pullets are never fed to induce egg production until they are at least six months old. As a usual thing it has been found that a hen must be in a fairly fat condition before egg production can be expected; therefore, the first effort with pullets should be to encourage the growth of a healthy amount of fat.

We consider an egg production of fifty percent very good, and when the production goes much above this the feeding is reduced, as extraordinary production is only had at the expense of future production, and every effort should be made to have a regular supply of eggs rather than spectacular spurts of production.

Litter of whole wheat straw should be kept on the floor about eight inches deep. This should be renewed about once a month. In scratching, the hens will move all the litter to the back of the pen because they face the light when working. This makes it necessary to rake the litter forward at frequent intervals.

The above is not theory, but facts gleaned from a number of years of real work with poultry, and those adopting the plan outlined can not help but secure the best of results provided, of course, that they use common sense in applying the plan under various conditions.

Dry Mash Hopper.

OVER-CROWDING

One reason that hens usually do poorly in winter is that they are usually crowded too much. Many farmers give their hens free range during the spring, summer and fall months, and consider that a house barely large enough to contain the perches is sufficient. When the hens must be kept up during bad weather they are crowded too much, and as a result they lay poorly.

Over-crowding is responsible for many diseases. A house that is crowded soon becomes damp by reason of the large quantity of moisture exhaled by the hens. As a result, colds, roup and canker result in the flock.

No matter if the flock has free range during the greater portion of the year, the house should be of such dimensions as to give each hen at least four square feet of floor space.

Crowding on the perches must also be avoided. Each hen should be allotted at least nine inches of perch room.—T. Z. Richey.

WILL STOP SHIPPING POULTRY IN ICE

That chilled dry-packed poultry reaches destination in much better order than the wet ice-packed product is shown, the United States Department of Agriculture states, by reports which are reaching it from various markets. The specialists of the department recently studied shipments of chilled dry-packed poultry and wet ice-packed poultry which had been shipped in the same car. The dry-packed birds were in excellent condition while the wet-packed were unfit for use on arrival at destination. The dry-packed product stands delays in transit far better than the ice-packed, especially during warm weather.

More eggs!

Dr. LeGear V.S. (In Surgeon's robe)
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POULTRY POWDER
DR L D LEGEAR MED CO

Help your hens "do their bit"

War prices will mean big profits to you this winter *if* your hens *lay* well. It will pay you to look after your hens *now*. Don't let the moult drag on—nature's course is too slow when eggs mean dollars.

In the National Egg Laying Contest at the Missouri Experiment Station, hens given a *daily tonic* made much the *highest record in egg yield and quick moult*, giving official proof that a tonic pays. Dr. LeGear's Poultry Powder is a tonic which helps hens through moulting, strengthens the hen's whole system, and stimulates the egg producing organs.

Graduate of Ontario Veterinary College (1892). He has had 26 years' experience in treating stock and poultry ailments. Nationally famous as a prize-winning poultry breeder.

Every Dr. LeGear Remedy is the Doctor's own prescription, based on his long practice and experience.

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Helps hens and pullets to lay early

It is Dr. LeGear's own prescription, used successfully in his 26 years of nationally famous poultry raising experience.

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Dr. LeGear's Lice Killer (Powder) is guaranteed to rid your hens of lice. Try it.

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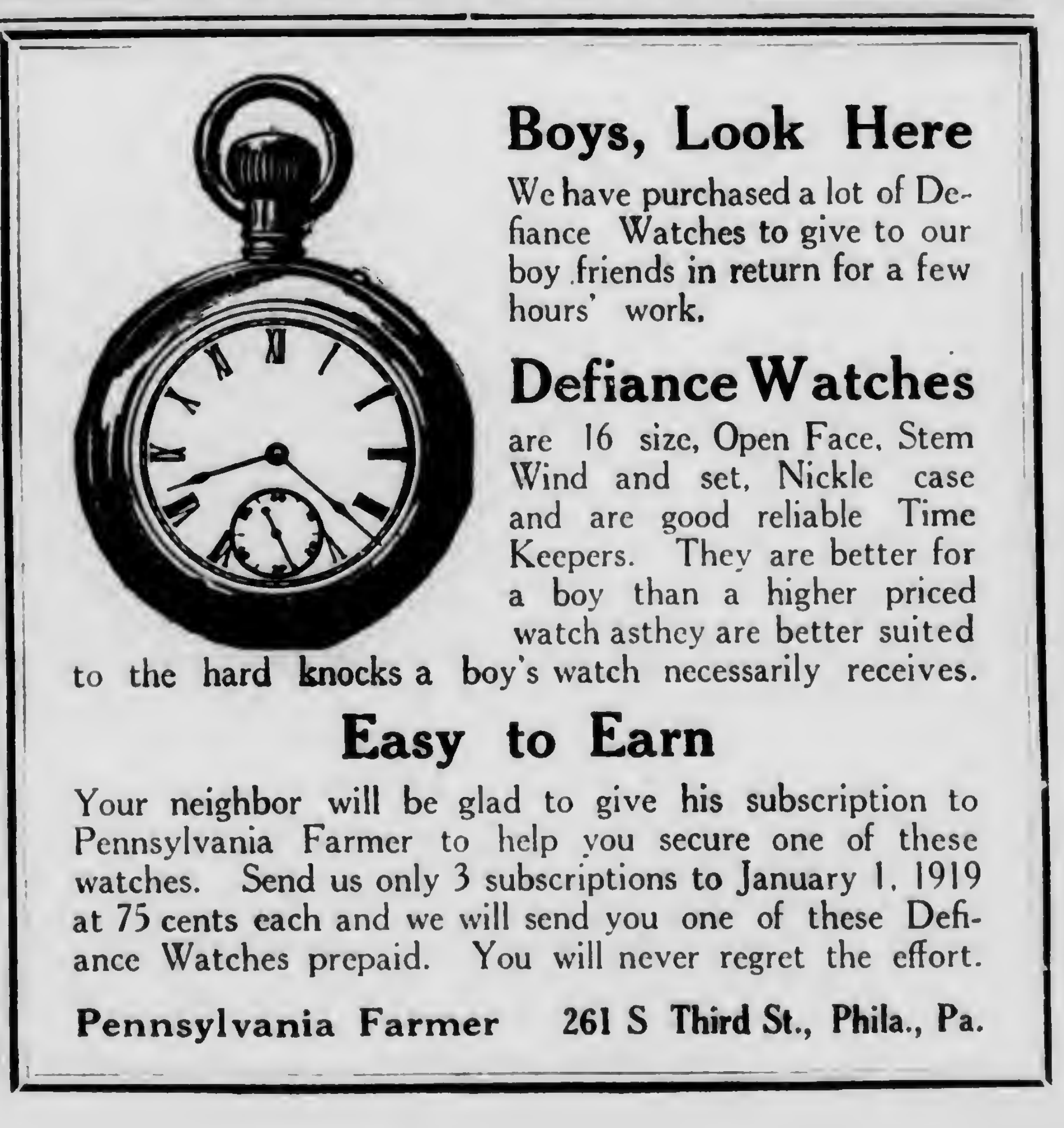

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Defiance Watches

are 16 size, Open Face, Stem Wind and set, Nickle case and are good reliable Time Keepers. They are better for a boy than a higher priced watch asthey are better suited to the hard knocks a boy's watch necessarily receives.

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Farm Products Prices and Prospects

APPLE CROP ESTIMATES

Eastern States

New York.—It is estimated that western New York has about 15 percent of a crop. Baldwins are particularly light. The Hudson Valley district has practically a half crop, most of which is of high quality. New York which in 1916 produced practically one-third of the total commercial barreled apple crop of the United States shows a decrease of 3,995,000 barrels or 57 percent decrease in comparison with last year.

New England States show a decrease of 826,000 barrels commercial crop or 35 percent decrease over last year. The Maine crop which is principally Baldwins is of good quality. The Champlain district of Vermont, a high quality McIntosh district, shows 28 percent of a full crop.

Pennsylvania.—The highly commercial counties of Adams and Franklin are reported with 55 percent of a crop, a higher figure than is indicated for most other parts of the state.

Virginias and Maryland.—The upper Shenandoah Valley growing principally York and Ben Davis located about Winchester and Martinsburg and including Washington County, Maryland, has only a medium crop. Ben Davis are very light. The Piedmont section producing largely Albemarle Pippin and Winesap has a fairly good or 63 percent of a crop while the lower Shenandoah Valley about Augusta County shows a like condition. The quality of the apples particularly in the Piedmont section is high. It is estimated that the commercial production for the states of Maryland, Virginia and West Virginia will be 696,000 barrels less or a 20 percent decrease as compared with 1916. The great number of young orchards coming into bearing in the commercial districts of these states prevents a greater decrease.

Ohio.—The southern Rome Beauty section is very light this year and shows a condition of 25 percent as compared with 36 percent of a full crop for the state.

Central States

Missouri, Arkansas, Iowa, Kansas, Nebraska. — The 1917 commercial crop for the states of Arkansas, Missouri, Kansas, Iowa, and Nebraska shows an increase of 36 percent over the 1916 crop, or an equivalent of 970,000 barrels. Jonathan, Ben Davis, Winesap, and Grimes Golden are the leading varieties in these states. Benton and Washington Counties, Arkansas, which produce over four-fifths of that state's commercial apple crop, will have 68 percent of a full crop. The commercially important apple growing counties in the Ozark region of southern Missouri will have 58 percent of a full crop. The Loess region bordering the Missouri River in Missouri, Iowa, Nebraska, and Kansas has about 50 percent of a full crop.

Michigan.—Michigan shows only 25 percent of a full crop or a decrease of 774,000 barrels in commercial production as compared with 1916.

Illinois and Indiana.—The commercial apple crop of Illinois and Indiana for 1917 is estimated at 1,439,000 barrels. This is an increase of 612,000 barrels or 42 percent more than the 1916 crop. Calhoun, Pike, and Adams Counties, Illinois, will have about 70 percent of full crop of good quality fruit. Southern Illinois or the district centering around Clay and Marion Counties, shows about 40 percent crop. Ben Davis, Johnathan, Winesap, Grimes Golden are the leading varieties grown in these the states.

The contrast in production between the sprayed and unsprayed orchards in the commercial apple growing regions of the central states is very marked. The bulk of the commercial crop is being produced in sprayed orchards.

Western States

Interest centers chiefly in the northwest crop. For the total boxed apple production of Colorado and states west, there is an increase of 19 percent over last year. This is due to the fact that Idaho has 94 percent of a full crop; Utah 90 percent; and New Mexico 65 percent as compared with almost total failures for last year.

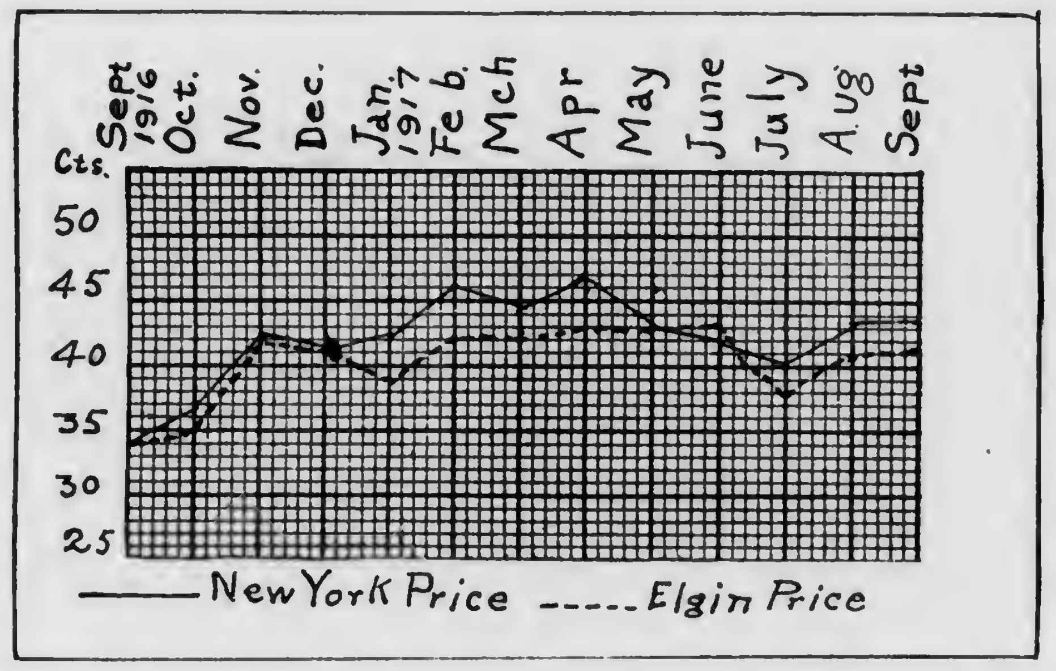
Washington.—For the 1917 apple crop Washington takes the position of the largest commercial apple producing state in the United States. Dry weather and late season will reduce size of apples below normal and injury from worms is reported high; otherwise quality is good. Commercial production for entire state, chiefly from Wenatchee and Yakima, will show 6 percent increase over last year. Estimate, 17,500 cars for 1917. Shortage of box materials is reported as checking movement of the northwest crop.

Oregon.—This state will produce 20 percent less than in 1916, due largely to a lighter crop in the Hood River valley, the principal district which is devoted largely to Newtown Pippins and Esopus Spitzenberg.

Idaho.—Idaho's crop will be larger than ever before. All the highly commercial districts in the Southern part of the state show heavy crops. Jonathan is the leading variety.

California.—The Watsonville district is estimated with nearly a full crop or about 4,000 cars, the bulk of the California crop. Varieties here are chiefly Bellflower and Newtown Pippin. Taken with the Sebastapol Gravenstein section the California state figure shows a 1 percent increase over last year. A large portion of the apple crop will be used for drying.

Colorado.—An increase of 67 percent over 1916 is reported for Colorado, light crops and failures occurring in some districts last year. Production centers in Mesa, Delta and Montrose Counties, on the western slope in which Jonathan and Ben Davis are the leading varieties.



Comparison of New York and Elgin Butter Prices 1916-17.

MARKET NEWS

Car Shortage Induces Storing of Potatoes

Due partly to the shortage of cars this year, most of the Maine crop of white potatoes has been stored this year. Already most of the potatoes in that region are out of the ground, altho only about 2,000 cars have been shipped, compared with over 5,000 last year by this time. In Colorado the car shortage is also inducing growers to store, altho not to as great an extent as in Maine. In the large potato sections of the Central West, in Minnesota and Wisconsin, the movement is now gradually becoming heavy, altho digging is still proceeding at the present time in those sections. Growers have not started to bring in the crop in large quantities. F.o.b. prices have held firm in Wisconsin and Minnesota stock. Potatoes are bringing $3.25 to $3.40 in bulk per 11 pecks, f.o.b. Presque Isle, Maine. Jobbing prices are firmer on most markets for Minnesota and Wisconsin stock, also in the east Jerseys are jobbing at $3.10 to $4.25 per 150-pound sack, which is an advance over the prices a week ago.

Sweet Potato Shipments Continue to Decrease

Shipments of sweet potatoes this past week moving from the eastern shore of Virginia and New Jersey were considerably less than those a week ago. The movement from the eastern shore of Maryland, however, is increasing. With the lessened shipments, prices have increased somewhat. Jerseys have advanced from $1.05@1.15 to $1.10@1.20 per bushel, f.o.b. Jobbing prices are also higher, especially for Virginia stock.

Cabbage More Plentiful

About 300 more cars of cabbages were shipped this week than the week previous. Most of these were from Colorado, New York and Wisconsin. New York and Wisconsin have shipped over twice as many cars to date as last year up to the corresponding time. The heavy buying by the kraut factories has made the shipments less than they would otherwise have been. New York stock is jobbing at $15 to $30 per ton, which is slightly less than the prevailing price a week ago.

STATE MARKET BUREAU ADVICES

On Monday of last week the Bureau of Markets received orders for thirty carloads of potatoes, one hundred and fifty thousand bushels of cider apples, and had offered for sale ten carloads of cabbage, two of turnips, together with smaller orders for other fruits and vegetables.

The Bureau is rapidly becoming what was intended, a clearing house for the producer and distributor. Farmers were somewhat skeptical at first about taking advantage of this medium of exchange, but in the main those who have sought its service have been pleased with the results. It is serving an urgent need and a long felt want in keeping the farmer in touch with market needs, prices and conditions.

Only a few days ago the director was informed that a certain buyer was purchasing apples in one of our northern tier counties at 60 cents per hundred. He immediately got in touch with the farmers and informed them that apples were bringing a much higher price than that which they were offered, and that he would be pleased to put them in touch with reliable dealers who would handle their crop.

The suggestion made by the Bureau early in August that the farmers hold back a part of their potato crop, and not flood the market at digging time, has evidently been followed, as we find the potato market daily growing stronger, and the farmer today can readily get from $1 to $1.10 per bushel for his potatoes, f.o.b. cars his shipping point.—Harrisburg, Pa., October 23, 1917.

BUTTER PRICES

The chart presented on this page shows the degree of uniformity between the Elgin and New York City butter prices for the past year. Many farmers contract their butter at prices based upon one or the other of these quotations. It will be noted that New York prices have averaged somewhat above Elgin butter prices

PENNSYLVANIA NOTES

From early production reports the oats crop is going to be one of the best in recent years in the state.

—

Grasshoppers have done great damage to many crops this season and in many sections the young clover fields have been so badly damaged that next season's hay crop will be affected.

—

Many Chester County farmers near the Lancaster County line have taken to growing tobacco.

Grange

LEONARD RHONE DEAD

There will be genuine sadness at the news that Leonard Rhone, the veteran past master of the Pennsylvania State Grange, is dead, the end having come at his home in Center Hall, on Tuesday, September 25. No patron of this state was better known or more widely respected than Mr. Rhone, and by many of the patrons who knew him he had been given the affectionate title of "Pennsylvania's Grand Old Man". For many years he had been prominent in the grange work of the state, was state master in the years 1881-1899, took a prominent part in the sessions of the National Grange and served several years as high priest of Demeter of the Order.

He always attended the sessions of the Pennsylvania State Grange and was an active counsellor in its affairs, his judgment being sought on all important matters. At the last session he addressed the delegates with great earnestness, and his words on that occasion will never be forgotten by those present. To every grange home in Pennsylvania real sorrow will come with the news, "Mr. Rhone is dead".

AMONG THE GRANGES

York County, Pa.—Pomona Grange met at Fawn Grove, September 29. A class of 60 candidates was initiated. Next meeting will be held with Gideon Grange at Hanover, February, 1918. Meetings of this kind give the working farmers a good opportunity to exchange ideas on the topics of the day as they affect them. First of these just now is the draft and its working. In the beginning of the year the farmers of this country were earnestly exhorted to "increase production" by petty talkers who were sent out by the government, and who as a rule only served to inspire contempt on the part of the farmers. This government left farmers under the impression that their need of help, when the harvest time came, would be "carefully considered" and now case after case is cited, when farmers get together, where the only dependable help is torn away and the farmer is left to help himself, with the biggest corn crop of his life on his hands. Our government, state or national, is evidently not bidding for the support of the farmers.—D. P. Forney.

THE WORK CURE

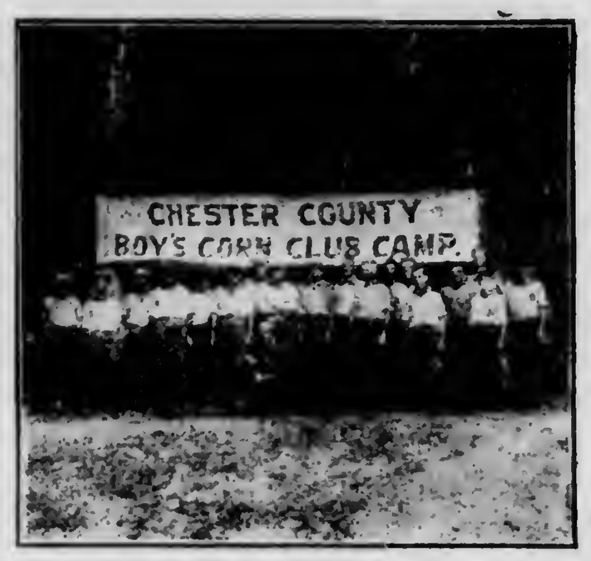
When you come out from under the influence of the ether after your next operation, you mustn't be surprised to have the nurse put some materials in your hands and gently insist that you go to work. The new wrinkle in medical science is "occupational therapy" and the bacillus of work is injected into patients.

If you are a shipping clerk you will be urged to draw, and your work in drawing will take the form of lettering in order that it may link itself up with your regular occupation after convalescence and so hold your interest. If you are a wealthy neurasthenic on a rest cure, you will be induced to make place cards. Whatever your condition or experience, some form of endeavor suitable to your case will be prescribed.

The theory back of the treatment is the effort to utilize the stimulating effect of interest, and the tonic which comes from beholding a finished article which has been made with one's own hands. Occupational therapy is especially valuable in the treatment of mental and nervous diseases and lingering illnesses like tuberculosis. By introducing habits of activity treatment overcomes in a measure the mental depression which accompanies illness. — Milestones.

PENNSYLVANIA HIGHWAY LAWS PASSED

The first law passed by the 1917 Legislature appropriated the motor vehicle license fees to the State Highway Department for use on the roads. At the end of business August 1, 1917, these receipts for the year amounted to $3,069,350. The main advantage of this law is that it gives the department a fixed income for road maintenance and frees it from dependence on the Legislature for funds to keep the roads in repair. This law enables the Maintenance Division to make plans in advance with the certainty that they will be able to carry them out.



The Boys in Camp.

Other appropriations made to the State Highway Department include six million dollars for the construction of State Highways; one million five hundred thousand dollars for State-aid Highway construction and five hundred thousand dollars for the purchase, or condemnation, of toll roads located on State Highway routes.

The State Highway Department acts as disbursing agent for $1,873,470.40 which was appropriated for the payment to the second-class townships as a cash tax bonus due them for the years 1910, 1911 and 1912.

No New Routes Added

No new routes were added to the system of State Highways. Two bills with this end in view were passed finally but both of them were vetoed by the Governor.

More than fifty bills were introduced which would have added approximately one thousand miles to the State Highway System but they were dropped from the calendar during the last days of the session.

Minor changes were made in twenty-seven State Highway routes, most of them at the suggestion of the State Highway Department. Practically all of these changes were made in an effort to secure better grades and more direct routes.

Important legislation authorizes the State Highway Department to expend funds appropriated for State-aid Highways on State Highway routes.

By the provisions of another bill, counties, borough, or townships are authorized to appropriate funds for the construction of important roads on State Highway routes and to join with the State Highway Department in building State Highways, each paying such proportion of the cost as may be agreed upon with the State Highway Commissioner.

Township Laws Codified

The township road laws were codified without material change in their provisions. The passage of the Township Code made it necessary to reenact the law which provided for a Bureau of Township Highways in the State Highway Department but no changes were made in the functions of this Bureau.

Counties, townships, boroughs, or incorporated towns are authorized to join with the State Highway Department in freeing toll roads on State Highway routes, appropriating such portion of the money required as may be mutually agreed upon.

Also, a law was passed providing that damages to abutting property, occasioned by the construction of State Highways, shall be paid by the counties.

Another law provides for the vacation of an abandoned or condemned turnpike, not exceeding one-half mile in length, where the State Highway Commissioner diverts the course of State Highway route.

The State Highway Commissioner is empowered by another law to take over any State Highway leading to a State reservation if he deems it desirable.

The Sproul law was amended so that State Highways can be constructed in boroughs in the same manner as in townships. The appropriation, however, follows the language of the former law and the funds available must be "used only in building unimproved sections in boroughs, where State Highway route is improved up to each end of the borough."

By another law the State Highway Commissioner is authorized to use, lease, or sell, toll collectors' residences or other property acquired by purchase or condemnation of toll roads.

Prison Labor

The use of prison labor on State Highways is made possible by the new Sproul Law on that subject. Available labor may be taken from county prisons, penitentiaries, reformatories, or reform schools, and employed in the construction, or maintenance, of State roads or State-aid roads. All expenses incurred by any institution by reason of the employment of its inmates must be paid by the State Highway Department. The prisoners, themselves, when so employed, must be paid by the State Highway Department not less than forty nor more than sixty cents per diem.

However, the State Highway Department cannot avail itself of the use of prison labor in the construction of roads, for the reason that the law covering road building requires that all construction work be done by contract, awarded to the lowest responsible bidder after advertisement. This new prison labor law also applies to the City of Philadelphia.

Bond Issue

The resolution submitting to the voters the question of a fifty million dollar bond issue for road construction in Pennsylvania was also passed for the second time and will be voted on in November, 1918.

No changes were made in the Motor Vehicle Law.—H. R. Campbell, Statistician Pennsylvania State Highway Department, in Chamber of Commerce Journal.

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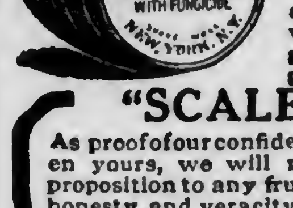

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Farm Women's Efficiency

Tell Us What You Think About This

When we go to a certain town near us in New York State and meet Dr. B., we think, "What a physically perfect man". His elastic step, the firm flesh and the fresh, glowing color all help to prove it. The clear, steady eyes tell something of the great fund of latent physical, mental and nerve energy, and you feel that here is the man you would call upon if the life of your best beloved was in danger.

But Dr. B. was not always such a perfect specimen of health. There was a time when he found himself considerably below par. Realizing what this would mean in his life work, and being an ambitious man, he began to find out what could be done. After undergoing a thoro medical examination and being told that there was really nothing the matter with him physically, that he just needed to "brace up", he decided to "brace up", and to keep "braced up". He was too wise to think that this meant simply gritting his teeth and plunging thru the hard places because he knew (what any of us know if we stop and think it over) that while this sort of "bracing up" might help us over a short term of years, there would surely come a day of reckoning.

So he made out a list of very simple rules, ridiculously simple many people might think for a physician to spend thought and time with, but he prepared the list, tacked it up where he could see it often and then proceeded to follow them as closely as was possible in his busy life. These rules pertained to just such simple things as the daily bath; attending regularly to the elimination of the waste matter of the body; the proper ventilation of his rooms; snatching a few moments of complete relaxation each day, and sleeping as regularly as possible. The last rule read, "Cheerfulness is a privilege, a necessity and a virtue, therefore, at all times be cheerful."

Can you think of any man or woman who would find it more difficult to follow such a code than a busy physician? The very fact that he did so successfully should encourage us.

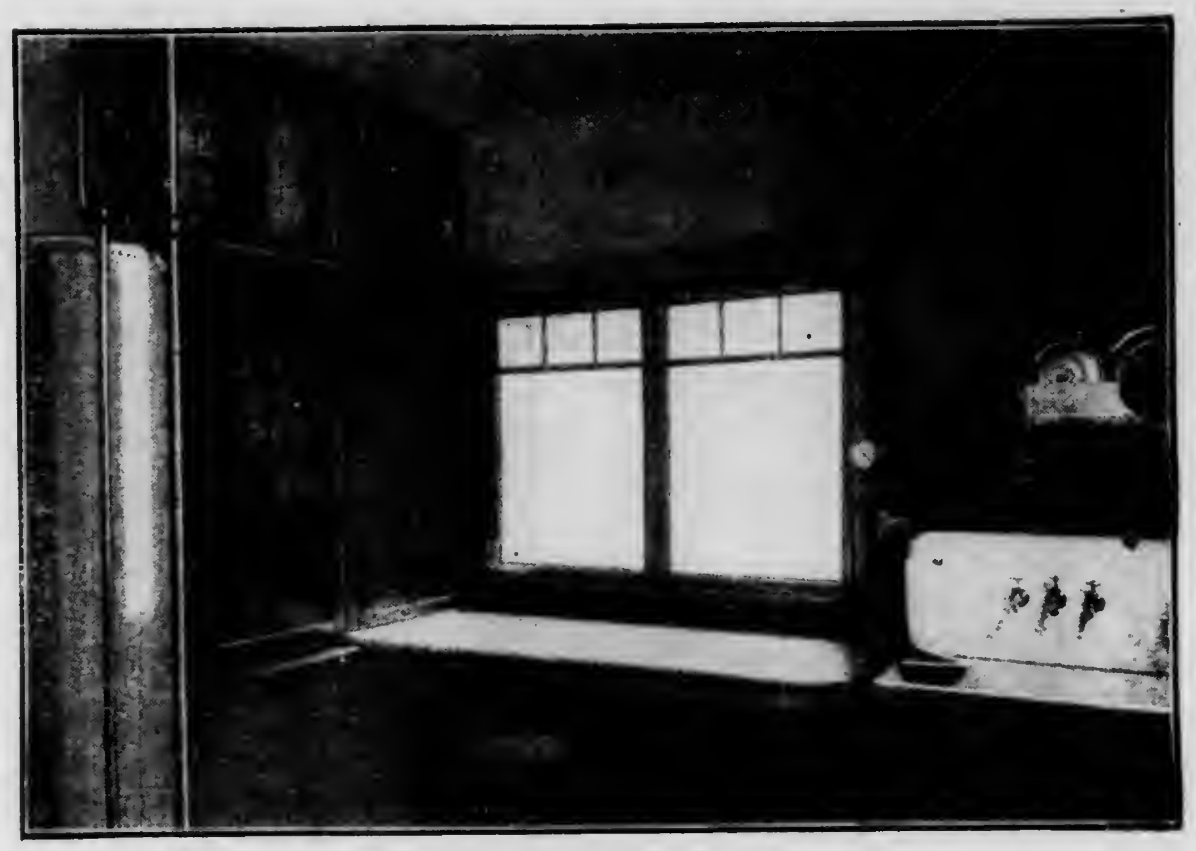
What has this to do with keeping house and cooking for a big family? What could have more to do with it than efficiency in safe-guarding our health and the health of those given to our care?

Is it a positive necessity that so many housewives lose their good looks, their power of enjoyment, and, in too many cases, their health so early in life? Many of us get mentally below par, below what it is our privilege and duty to be, because we have allowed our minds to go around and around in a certain groove of household duties for so long a time.

Monday, wash and scrub; Tuesday, iron and bake and stew; Wednesday, finish ironing, sweep and dust; Thursday, a good long day at the sewing and mending (if there is no extra meat to be taken care of or pumpkin to be stewed or canning to be done or mince meat or pickles to be made); Friday, bake and straighten cupboards and closets and scrub; Saturday, more baking for Sunday, and extra thoro sweeping and dusting, children's baths, etc. And that really isn't half of a country woman's life for before she begins the day of washing, ironing or scrubbing, she very often milks several cows, feeds a large flock of poultry, prepares breakfast for the family, washes the breakfast dishes, then the things in the dairy which include separator, cans, cooler and pails; then she is ready for the real work of the day!

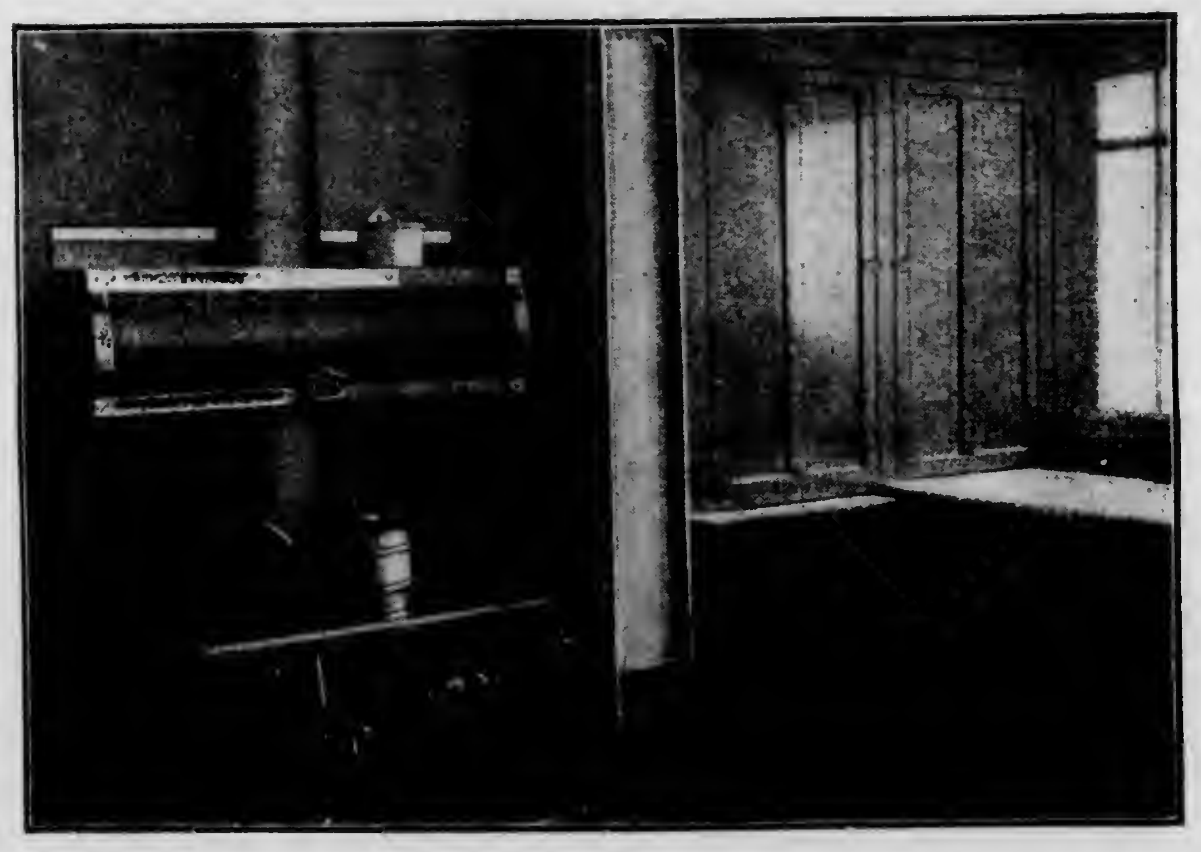
Is it any wonder that when you ask her to join a reading or a Mothers' Club, attend church or even make a neighborly call, she says "I haven't time" or "I am too tired"?

Now where does the trouble really lie and what is the solution? Not in community kitchens. If the time ever comes when the farmer really gets the money for his produce that city people now think he does, the farmer, his wife and family will be able to adjust their conditions and their lives very nicely. But while so many people must make an easy living on this same produce after it leaves the farm and before it reaches the consumer, often the farm life will be hard for the lack of cash to supply the help and conveniences which are needed.



Pleasant Place to Wash Dishes.

Here is a Kitchen Arrangement that Contributes to Efficiency of the Worker. Besides Hot and Cold Soft Water a Third Pipe Brings in Well Water.



The Same Kitchen, Showing Relation of Stove to Cupboards and Sink.

However, we must not be discouraged. It is up to the farmer's wife to do all she can to make her life easier and the lives of country women, in general, more attractive. Let us look about and see how we can take advantage of the situation.

First, let's do away with useless cluttering things all thru the house. Fewer and better as well as better hung pictures are one improvement. Smoothly finished floors with rugs (room-size ones for the livingroom and parlor if you like, but smaller ones for all the other rooms) will lighten the work of the country housekeeper.

Country men eat heartily, and women on the farms do a vast amount of cooking. Our men perform hard, physical labor in the open air and our children who walk one mile or more to school and home require plenty of nourishing food. Let the cakes be plain and without frosting, not only to save our time and strength but to save sugar which is needed for our allies, who are fending off the Hun armies from coming across to fight us in our own country. Let the cookies be dropped from a spoon, avoiding the tiresome process of rolling and cutting.

Spend the time we have usually given to the concoction of some fancy dish in a comfortable rocker, studying the food values of the different articles we have at hand and learning how to plan and prepare simple meals that will be properly balanced; also learning to use to the best advantage the many excellent foods found on the farm that can be substituted for the meats and wheat needed to send to our allies.

Of course, we must be economical, and no class of homemakers has over practiced this art more thoroly than farmers' wives, but we must learn to distinguish between false and real economies. Can you believe that there are yet in this enlightened land of ours women who will not buy a cake, a pound of cookies or even a loaf of bread to tide them over some hard place? They seem to feel that it is quite an extravagance and denotes a failure on their part to do their duty.

Is there any class of women in the world who needs such conveniences as a power washer, a good vacuum cleaner, a mechanical dishwasher or a fireless cooker more than the farmer's wife? And yet we are the ones who really have the smallest percentage of these helps.

I have frequently heard farm women say when asked if they had a dish drainer, a bread mixer or a good oiled mop for their floors, "No, I have never gotten used to such things", or "After Fred buys the machinery that he just has to have to carry on the farm work and meets the other expenses, there isn't much money left for anything about the house besides the necessities."

A gasoline flatiron, a good oil or gasoline stove in the kitchen are not considered necessities but things that can be done without at the saving of a few dollars and the expenditure of unlimited strength and nerve energy on the part of the wife and mother. Farm women are a most unselfish and a most extravagant class, because they are so ready to deny themselves the use of a dollar if it seems needed to help the business and because they spend with such a lavish hand that which is one of the most valuable assets of the home, their own strength, health and happiness. We must get aroused to the fact that whether we ever get to the foot of the rainbow where the pot of gold awaits depends largely on our individual efforts.

Husbands and children will not do it for us, not because they are intentionally selfish, but because they are absorbed in their own work or play. If they thought of it at all they would say, "Why Mother knows, she's been finding out the best way for years; that's her job and she knows lots more about it than we do".

But is it always true that we are really finding the best way? If we are, there will not a year pass but some new labor-saving device will be installed in our home. If we are marshalling our forces wisely, sunsets would not find us completely exhausted and dreading the coming of another day.

If we are discreet an extra woman will be engaged to help thru housecleaning and all extra hard jobs. "Can't get one"? It is difficult, I well know, but because they are so rare and so incompetent we need to plan carefully every hour of her work so the work will go with as little friction and effort as possible. Then she will pronounce you a "natural manager" and be ready to help you out another year.

Owing to the unexpected claims with which a housekeeper must contend, it is impossible to arrange and carry on the work in the orderly manner of shops and offices. But it can be brought into much more systematic shape than many of us realize. Often the confusion and piling up of work is due more to bad management than we like to admit.

I very much like to plan my work for each hour of the day but my greatest failing lies in trying to crowd too much into each period, planning more than I can accomplish. The result is that one hour's work runs over into the next period, crowds that a little harder than the one before and I grow discouraged and say, "Oh well, there's no use trying to systematize housework on a farm anyway". But the mood doesn't last long, and I plan next time to leave out some non-essential or take a short cut in some way so the result will be more satisfactory. I believe this is more generally possible and is the secret way to better and easier kept homes presided over by encouraged rather than discouraged women. Then we will have time to know our neighbors, time to enjoy a good neighborhood conference club, time to read, time to look about and really enjoy the many blessings with which we are surrounded.—Mrs. J. H., Erie Co., Pa.

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PENNSYLVANIA FARMER
261-63 S. Third St. Philadelphia, Pa.

MEATLESS MENUS

Meatless menu suggestions which make a special appeal to the homemaker at this time are given in extension circular 65 of the Pennsylvania State College school of agriculture:

Breakfast

Stewed figs, oatmeal with cream, poached eggs, toast, coffee or milk.

Dinner

(1.) Nut loaf with white sauce, buttered carrots, spinach, rolls, cup custard.

(2.) Scalloped corn, baked potatoes, watercress, graham bread, junket pudding, macaroons.

Supper

(1) Cheese souffle, creamed potatoes, lettuce salad with French dressing, stewed peaches, sponge cake.

(2.) Cream split pea soup, croutons, stuffed onions, cold slaw, corn muffins, rhubarb, plain cookies.

The same bulletin contains recipes for a number of dishes that may replace meat in the diet. We must remember that when substituting for meat, we must select foods that do similar service in body repair and construction. Such substitute food elements are found in cheese, eggs, milk curd, dried beans and peas, particularly in soybeans, which are very rich in this cell-making substance; most nuts also contain more or less of it. Pick out in the above recipes the dishes which are meat substitutes.

TWO LATE FALL GOODIES

Pumpkin Filler for Pie

One cup cooked pumpkin strained thru colander, 1 cup milk, 2 eggs beaten light, 1 teaspoonful sifted flour, lump butter walnut size, ground mace, sugar and salt to taste.

Grape and Apple Butter

Ten pounds grapes, 7 pounds apples (cored), 1 quart water and 4 pounds sugar.

Boil all together until fruit is soft, then strain thru fine colander. Add ½ teaspoon each of ground cinnamon and cloves, and cook until thick. Store in stone or glass containers.—A. L. Roat, Philadelphia Co., Pa.

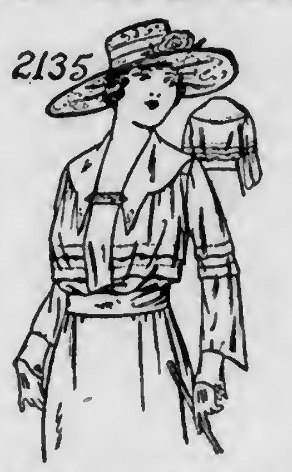
Clean 1 lb. of beans, wash and soak over night. Next morning put them in water and let boil, adding warm water when needed, until the beans are thoroly cooked and easily crushed with light pressure. Add large spoonful of lard and salt to taste. Eat with boiled rice served as a vegetable.—Millicent Maull, Philadelphia Co., Pa.

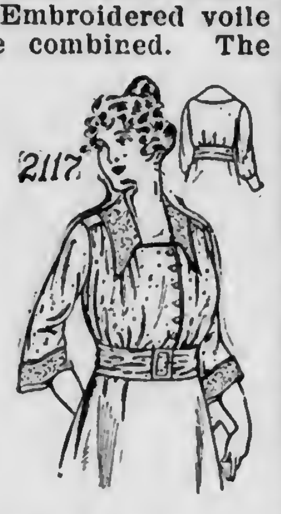
PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

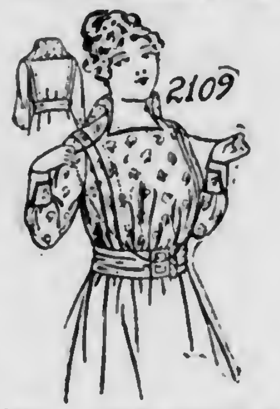
2135.—Dainty Waist for Many Occasions.—Georgette crepe was used for this model. A touch of embroidery in contrasting colors, ornaments, tab, collar and cuffs. The closing is at the side, under the vest. Pattern is in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 2⅞ yards of 44-inch material for a 38-inch size. Price, 10 cents.

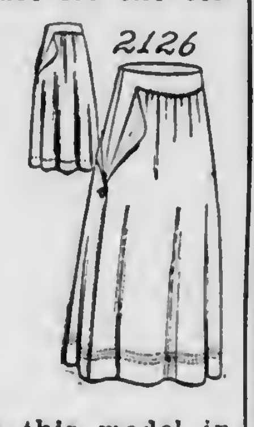
2117.—Ladies' Waist, with Sleeve in Two Lengths.—Embroidered voile and lace are here combined. The waist closes at the left side. Its fronts are gathered to yoke extensions of the back. The sleeve may be finished in wrist length with a deep cuff, or in loose bell style. The pattern is in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It requires 2½ yards of 36-inch material for a 36-inch size. Price, 10 cents.





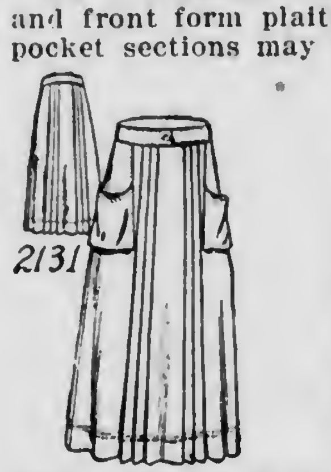
2109.—Attractive Waist.—Figured foulard was used with Georgette creepe in a contrasting shade for the cuff trimming, and lace for the collar. One could have this model in figured voile or crepe, striped taffeta, in a pretty batiste, lawn or organdy, in linen or poplin. The closing is effected under the front plaits, at the left side. Pattern is in 7 sizes: 34, 36, 38, 40, 44 and 46 inches bust measure. It requires 2⅝ yards of 36-inch material for a 36-inch size. Price, 10 cents.

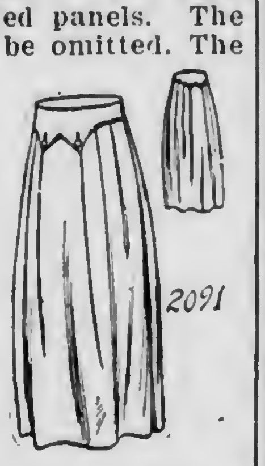




2126. — Ladies' Skirt in Raised Waistline.—Jersey cloth, serge, gabardine or shanting are nice for this model. Back and front are gathered and the sides are shaped to form revers at the yoke joining. Pattern is in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. It requires 3 yards of 44-inch material for a 24-inch size. The skirt measures about 2⅝ yards at the foot. Price, 10 cents.

2131.—Practical Skirt.—The back and front form plaited panels. The pocket sections may be omitted. The skirt measures about 3 yards at the foot, with plaits drawn out. Pattern is in 6 sizes: 22, 24, 26, 28, 30 and 32 inches waist measure. It requires 5 yards of 44-inch material for a 24-inch size. Price 10 cents.





2091.—Smart Skirt.—The skirt is mounted on the yoke and is closed, together with the yoke, at the left side. Pattern is in 6 sizes: 22, 24, 26, 28, 30 and 32 inches waist measure. It requires 3½ yards of 44-inch material for a 24-inch size. The skirt measures about 2 yards at its lower edge. Price 10 cents.

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Oct. 22, 1917.

It looks as if the potato market had at last reached its high level, at least for the time being. Prices had been steadily advancing for the past several days and at the close of last week best Pennsylvania round stock was selling as high as $1.93 per bushel. This, of course, was for extra fancy stock and most sales were being made at $1.85 to $1.90. These high prices brought out increased supply and on Monday there were more potatoes in Philadelphia than on any previous day this season. The Reading yard reported 109 cars and the Pennsylvania Yard 51 cars; making a total of 160 cars as against 101 cars of the Monday previous. Under these liberal offerings prices eased and best Pennsylvanias are now selling at $1.75 to $1.85, and New York State at $1.65 to $1.75. Even at the decline the movement was rather slow, and the prospects are that prices might go a little lower. New Jersey Giants were being held at $4.25 in 150-pound sacks, but the buyers were holding off for $4 to $4.15. Eastern Shore barrel stock is in light supply and sold mostly at $5 to $5.25, with some poor down to $4.50. Nearby Jersey stock in ⅝-bushel baskets was also lower, selling from $1 to $1.10 with No. 2's at 60 to 70 cents.

Sweet potatoes are in much heavier supply than last week, when they showed an advance of about 15 cents a basket and sold up to 85 and 90 cents. With the more favorable weather conditions, farmers were able to dig and haul their sweets and prices are now back to the normal basis of 65 to 75 cents for yellow No. 1's with reds bringing 75 to 80 cents, and No. 2's from 35 to 50 cents. Only a limited number of Eastern Shore stock is arriving, but in sympathy with the Jerseys, these have also declined and are now selling at $3 to $3.25 for No. 1's and $2 to $2.25 for No. 2's.

Vegetables

Dried beans rule firm and higher, marrows selling at $9 to $9.25 per bushel; Pea and Medium, $9 to $9.25 and Red Kidneys, $8.50. Beets continue active, but practically unchanged. Bunch stock selling at $2 to $3 per hundred and loose winter stock in barrel at $2.50 to $3 per barrel. Brussel Sprouts are firm if fancy at 17 to 18 cents per quart, with poor on down as low as 12 cents. Carrots are not as high but are moving freely at $2.50 to $3 per barrel. Altho receipts of cabbage continue fairly liberal, the demand has been strong and prices are advancing almost daily. Prices are fully $8 per ton higher than last Monday. Danish is now selling at $38 to $40 per ton, and domestic at $34 to $35. Cauliflower shows little change from last week. Western New York crates containing one dozen heads sell from $2 to $2.75, while Long Island sell at $3.25. Celery is much lower and stock that sold last week for 70 cents now brings about 55 cents. Smaller sizes sell on down as low as 15 cents per dozen.

Nearby eggplant has practically all been marketed, the light receipts still coming are showing very poor quality and bring very irregular prices. Some Florida stock has been here and sold at $2 to $2.50 per crate. Horse radish remains unchanged at $5 to $11 per barrel. Good lettuce is active at $1 to $1.50 per box, and 75 cents to $1.25 per hamper. Onions show another advance over last week's jumping prices. Californias are now selling at $4 to $4.50 per 100-lb. sacks and New York state, Ohio, Illinois, and Indiana stock at $3.50 to $4 per sack. Parsnips are a little more plentiful but rule steady at $3 to $3.25 per barrel. Pumpkins are quite plentiful, but moving freely at prices ranging all the way from $5 to $15 per hundred, as to size. Green peppers are steady when fancy; fancy sells up to 50 cents per basket, but poor and small are not wanted and move slowly at 20 to 30 cents per basket. Other peppers are unchanged, Cayenne brings $1 to $1.50; and tomato, 50 cents to $1. Spinach is more plentiful and lower, average sales being made at $1 to $1.50 per barrel. Squash is not so plentiful and higher, best bringing 50 to 60 cents. If there were any strictly fancy tomatoes arriving they would no doubt sell at $1.50 a basket or higher, but few of such are arriving. There are plenty of poor ones here which are ranging from 25 cents to $1 per basket. Turnips are ruling steady at last week's advance, selling from 50 to 60 cents per basket for whites and 60 to 80 cents for yellows. Rutabagas show no change with supplies moderate, most sales being made at $1.25 to $1.40, with some large ones as low as $1 to $1.15 per cwt. Watercress is in fair demand at 1 to 1½ cents per bunch.

Fruits

Altho Monday saw the heaviest receipts of apples of any day this season, supplies are only moderate for the time of the year, and this market could use to good advantage many more apples than have been offered so far this season. The 31 cars offered Monday met with a good active demand and the market ruled firm, with fancy marks of favorite kinds selling at high prices. Last week's prices were fully substantiated and in some instances exceeded. Sales are now being made at about the following range: Wealthy, $3.50 to $5.50; Grimes Golden, $3.50 to $6; Gravenstein, $3 to $5; Smokehouse, $3 to $5; Jonathans, $4 to $6.50; Blush, $3.50@$6; Greenings, $3 to $5.50; Baldwins, $3 to $4.50; Alexander, $3 to $5.50; Twenty Ounce, $3.50 to $6.50; York Imperials, $3.25 to $4.75; Bonums, $3 to $5; Starks, $3 to $5; Staymans, $3.25 to $5.75; Black Bens and Gano, $3 to $4.50; Ben Davis, $3 to $4; Rome Beauty, $4 to $6; Gillflower, $4 to $6; Hubs, $3 to $5; Kings, $3.50 to $5.50; Black Twig, $3 to $4.50; Crab Apples, $6 to $9. Bulk Apples, $1.75 to $2.25 cwt.

Bartlett pears are meeting with a very slow demand and market draggy at $1 to $1.75 per bushel. Seckel pears on the other hand are firm and active and $2 to $3.50 per bushel. A few Sheldons sold at $7 to $8 per barrel; De Anjous, $3 to $5; Clairgeau, $4 to $4.50; Beurre Bosc, $4 to $5. Quinces are in good demand at $6.50 to $7.50 per barrel for No. 1's and $4.50 to $5.50 for No. 2's. Only a few peaches are now arriving and they show quite an advance over last week's prices, now selling at $1.75 to $2 per bushel, and 85 to 90 cents for small peach baskets. Demand for grapes is not so active as it was last week and prices are quite a little lower. Concords in jumbo baskets are selling at 65 to 70 cents and in 4-quart baskets at 20 to 22 cents. While ponies bring 15 to 16½ cents. Niagaras are even weaker, demand appearing to be very limited, with jumbos ranging from 60 to 65 cents and ponies from 11 to 12 cents. Delawares are practically done for the season. Demand for plums seems to have stopped entirely and prices are much lower than last week. Prunes are now selling at 25 cents per 4-quart basket and $2 per bushel. While Damsons sold at 45 cents per 4-quart basket. Cranberries are somewhat in demand and prices slightly higher, ranging from $2.75 to $3.25 per crate and $8.50 to $10.50 per barrel. Chestnuts are in quite free supply and prices are nearly 50 percent lower than last week, some stock selling as low as $5 per bushel. Good nuts are selling at $6 to $7.

Poultry

Demand for live poultry has been rather limited and market is ruling weak and lower, with supplies showing a little accumulation. Fowl are now selling at 21 to 24 cents; old roosters, 19 to 20 cents; spring chickens, not Leghorns, 21 to 23 cents; Leghorns, 19 to 21 cents. Ducks, 19 to 23 cents; turkeys, 22 to 26 cents. Young guineas are slightly firmer, ranging from 90 cents to $1 per pair, with old steady at 60 to 65 cents. Pigeons are bringing all the way from 30 to 35 cents per pair.

Dressed poultry has been ruling weak and prices have declined one cent from last week's quotations. Even at the decline trading has been moderate and small fowls are particularly hard to sell. Fowls range from 27 to 31 cents; fancy broiling chickens, scarce and firm, 30 to 36 cents. Roasting chickens are about steady at the decline, ranging from 25 to 28 cents. Turkeys and ducks rule firm with choice stock in fair demand at the revised prices. Turkeys range from 25 to 28 cents and ducks 25 to 28 cents.

Eggs

Again there is no change to be noted in the egg market. Strictly fancy fresh-laid eggs are scarce and sell quickly upon arrival, and usually at a premium. The medium grades and stock more or less unattractive is receiving very little attention from the buyers and there is some accumulation of this stock. Pennsylvania and other nearby firsts are quoted at 42 cents; current receipts, 41 cents; seconds, 37½ cents; western extra firsts, 42 cents; firsts, 41 cents; seconds, 37½ cents, Southerns, 39@40 cents.

LANCASTER PRODUCE

Lancaster, Pa., Oct. 22, 1917.

Commodity prices went "over the top" this morning, eggs being held firmly for fifty cents for the first time this year. There was little corn on the market and small quantity of inferior grades brought from 25 to 30 cents a dozen. Potatoes which were scarce, brought $1.50 to $1.50 per bushel.

Butter and Eggs.—Creamery butter, 50@52c per lb; country butter, 50c per lb; fresh eggs, 50c per dozen.

Poultry.—Dressed old chickens, $1.25@1.50; dressed young chickens, 75c@$1; live chickens, $1.50@2 per pair; live old chickens, 18 cents per lb.

Vegetables and Fruits.—Tomatoes, 25@80c ½ pk; spinach, 5c ½ pk; new turnips, 15c ½ pk; potatoes, 15@22c ½ pk; do., $1.50@1.60 per bushel; sweet potatoes, 30c ½ pk; Cabbage, 2@8c; pickles, 20@35c per hundred; eggplant, 5@10c each; cauliflower, 15@20c per head; lettuce, 5@12c each; lima beans, 18c pt; corn, 25@30c doz; grapes, 20c ½ pk; apples 12@20c ½ pk; pears, 15c ½ pk; chestnuts, 15c pt.

Grain Market.—Wheat, $2 per bushel; chicken wheat, $1.80; new ear corn, $1.80; old corn, $1.90; rye, $1.75; timothy hay, $23@24 per ton; mixed hay, $22@23; red clover, $16; wheat straw, $11@12.

YORK PRODUCE MARKET

York, Pa., Oct. 22, 1917.

There was little change in the markets of the week except in a general stiffening of prices. Apples as a rule are not plenty, and high in price over the surrounding country, yet the price is much below that of the past three years. Potatoes, also, are being held down, but many are sent away thru the dealers at the various railroads, the price reaching $1.25, while it is impossible to get more than $1.20 in the city. Pork, also, has taken a tumble of $4 per cwt., whether it is local or not we do not know.

Eggs.—44@46c per dozen.

Butter.—Country, 42@45c lb; separator, 45@50c lb. Milk, 10c per quart.

Poultry.—Hens, 20@21c lb; dressed, 65c @$1.50 each.

Vegetables. — Potatoes, 12@18c ½ pk; $1.10@1.20 bu. Cabbage, 3@12c hd. Lettuce, 2@5c hd. Beets, 5c bx. Radishes, 5c bch. Onions, 10c bx; 20@25c ½ pk. Lima beans, 22@28c qt. Soup beans, 30c qt. Celery, 5@10c stalk. Tomatoes, 8@10c bx; 15@30c ½ pk. Turnips, 10@15c ½ pk. Eggplants, 3@8c each. Corn, 20@30c doz. Corn meal, 10@12c qt.

Fruit.—Apples, 10@25c ½ pk. Plums, 5@10c bx. Pears, 8@10c bx; 15c ½ pk. Canteloupes, 2@6c each.

Retail Grain Market.—Wheat, $2.25; corn, $2.25; oats, 90c; rye, $1.50; bran, $2.10 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $2.05; corn, $1.90; oats, 65c; rye, $1.25; bran, $34@38 ton; middlings, $58 ton.

NEW YORK PRODUCE

New York City, Oct. 22, 1917.

Butter advances quite sharply, but cheese has a weaker tone. Fancy fresh eggs scarce. Undergrades are weak. Dressed poultry, except broilers, weak.

Butter.—Creamery, extras (92 score), per pound, 43½@44c; higher score, 44½@45c; thirds to firsts, 39½@44½c; state dairy, 39@42½c; ladles, 37@41c.

Cheese. — Fresh colored specials, 24@24½c; white, 24½c; undergrades, 13@21c.

Eggs. — Fresh gathered extras, 45@46c; extra firsts, 43@44c; nearby white, fine to fancy, 66@68c; ordinary to good, 50@65c; browns, 50@57c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 36@38c; old roosters, 24c; squabs, $2.00@5.50 per dozen; Spring ducks, per lb., 25@27c; turkeys, fresh killed, 30@35c.

Vegetables and Greens.—Beets bbl., $2.50@3. Onions, per 100-lb. bag, $2.25@3.75. Potatoes Jersey, $3.00@4.75 per bbl; state and western, $4.10@$6.00 per bbl. Carrots, $2.25@2.50 bbl. Cucumbers, $1@1.75 bas; peppers, bbl., $2.50@4; tomatoes, Jersey, 50c@$2.25 per box.

Apples.—Wealthy, $3@6 bbl; Wolf River, $2.50@5; McIntosh, $3@7; Jonathan, $3@7.00; York Imperial, $2.50@5.25. Twenty Ounce, $2.50@5.50; King, $2.50@5.50; Baldwin, $2.50@4.50.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., Oct. 22, 1917.

Beef Cattle.—There was not much demand for either steers or bulls and the market ruled weak and lower under more liberal offerings. Other kinds were in fair request and generally steady.

Steers.—Good to choice, $11.75@13.75; fair to good, $10@11; medium to fair, $9@10; light and common, $8@9; milk cows, $75@120; bulls, $6.25@8.50; extra choice higher; cows, fat, $8@8.50; extra choice higher; medium, $6.75@7.75; fair, $5.25@6.50; ordinary, $4.25@5; calves, exceptional lots, $16.50@17; good to choice, $14.50@15; medium and southerns, $9@15.50.

Hogs. — The market ruled weak under bearish outside advices and a slow demand and prices were considerably reduced. For best western, $18.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., Oct. 22, 1917.

The receipts of cattle for today's market were 279 cars, as compared with 293 cars last Monday and 300 cars the corresponding Monday a year ago. Today's supply came from Virginia, 116 cars; Chicago, 94; Buffalo, 30; St. Paul, 17; N. Y. State, 12; Pennsylvania, 6; Cincinnati, 2; Maryland, 1; Pittsburgh, 1.

The supply of cattle for slaughtering purposes was about the same as a week ago, but there was very little that could be called "good" of either steers or heifers. Salesmen called everything for slaughtering purposes 15 to 25 cents lower, except the light-weight low-priced kind that sold fully steady because there was not many of them among the offerings.

It is likely that there were more feeders on sale today than on any previous Monday this season, and the class of feeders was certainly the best of the season taken as a whole. The attendance of buyers was large, but some of them went away with their wants unfilled, perhaps to come back later and wish that they had done business today.

Everything desirable in the feeder line weighing 800 pounds and upwards sold about the same as a week ago. The coarse grades and the common light weights were not sought for and they sold 15 to 20 cents lower. The Canadians as usual "topped" the feeder market. A good many Lancaster County feeders have a high opinion of Canadian cattle as weight takers. The price they fetch tells the story.

One bunch of 20 head of Canadian steers weighing 1100 pounds sold at $12.25; several bunches weighing 860 to 1100 pounds sold at $12. Several weighing from 570 to 960 pounds sold at $11.75. A bunch of 15 head of horned cattle, weighing 920 pounds, sold at $10.80. One of 15 head of yearlings weighing 700 pounds sold at $10.25.

The following are representative sales of feeders that came from Chicago and other Western markets. One bunch averaging 965 pounds sold at $11.10. Another averaging 1000 pounds at $10.60. Another of 15 head averaging 990 pounds at $11. A very large number of sales of a pretty handy kind of feeders weighing 875 to 925 were made at $10. The class of feeders weighing 750 to 800 pounds that sold at $9 to $9.25 were only a fair grade. A plain grade of the same weights sold at $8.50 to $8.75. A plain kind of 700-pound steers sold at $7.75 to $8.25. Common light weights, 400 to 600 pounds, sold from $6.50 to $7.25.

There was a decided "let up" in receipts at all Western markets today, and prices there for feeders were quoted by wire as being 25 to 40 cents higher. This is a pretty big country and it might be well for Eastern Pennsylvania buyers of feeder cattle to reflect that all of their kind are not in the Keystone State. If today's light supplies at Western markets continue for the next three days, the feeder price in this market next week will have a different "tune".

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Oct. 22, 1917.

Baled Hay and Straw.—Receipts, 240 tons of hay and 6 cars of straw. The market for hay ruled firm with demand absorbing the offerings of desirable stock. Straw was in more liberal supply, but generally steady, with demand fair.

Timothy hay (according to location), No. 1 large bales, $26.50@27; No. 1, small bales, $26.50@27; No. 2, $25@25.50; No. 3, $22@23. Clover mixed hay, light mixed, $25@25.50; No. 1 mixed, $23.50@24; No. 2 mixed, $21@22.

Straw.—No. 1 straight rye, $17; No. 2 straight rye, $16@16.50; No. 1 tangled rye, $16@16.50; No. 2 tangled rye, $15@15.50; No. 1 wheat straw, $13.50@14; No. 2 wheat straw, $12.50@13; No. 1 oat straw, $13.50@14; No. 2 oat straw, $12.50@13.

Bran.—The market ruled firm and higher under light offerings and a fair demand. Quotations (car lots, including sacks):

Soft winter bran, in 100-lb. sacks, per ton, $37.50@38; spring bran, in 100-lb. sacks, per ton, $36.50@37.

Wheat.—No. 2 red, $2.24; No. 3 red, $2.21.

Corn.—No. 2 yellow, $2.10@2.12.

Oats.—No. 2 white, new, 65½@66c.

PITTSBURGH HAY AND GRAIN MARKET

Pittsburgh, Pa., Oct. 22, 1917.

Hay.—Arrivals not sufficient to meet the demand. Hay arriving on off roads which under ordinary circumstances would be hard to sell are readily disposed of at quotations. Mixed and clover hay especially are badly wanted.

No. 1 timothy, $25.50@26; No. 2 timothy, $23.50@24.50; No. 3 timothy, $20@21; No. 1 light mixed, $24@24.50; No. 1 clover mixed, $24@24.50; No. 2 clover mixed, $20.50@21.50; No. 1 clover, $24.50@25; No. 2 clover, $20.50@21.50.

Straw.—Receipts moderate; excellent demand for oat straw, fair demand for wheat straw readily takes care of all arrivals.

No. 1 oat, $11.25@11.50; No. 2 oat, $11@11.25; No. 1 wheat, $10.75@11; No. 2 wheat, $10.25@10.50; No. 1 rye, $11@11.50; No. 2 rye, $10@10.50.

Ear Corn.—Trade holding off for new ear corn are loathe to pay present high prices. Market dull and hard to sell.

No. 2 yellow, $2.11@2.12; No. 3 yellow, $2.07@2.11; No. 2 high mixed, $2.09@2.10; No. 2 mixed, $2.07@2.08.

Oats.—Supply equal to the demand, market lower. New stock.

No. 2 white, 63¾@64c; standard, 63@63½c; No. 3 white, 61½@62½c.

NEW YORK HAY AND GRAIN

New York City, Oct. 22, 1917.

Feed.—The situation remains firm. Prices yesterday were nominally unchanged, but just the same holders were not disposed to offer concessions in order to force sales. The demand remains moderate, and consumers do not seem to be in need of supplies just at the moment, either for nearby or distant shipment. The offerings are limited, and many mills in the Northwest have reduced their output materially. Receipts of wheat are fully up to the estimates at the primary centers. Quoted: Western spring in 100-pound sacks, $37; standard middling, $43.50; flour in 100-pound sacks, $52.50 to arrive; red dog to arrive in 100-pound sacks, $62; city feed bulk bran, $35; 100-pound sacks, $36; heavy feed, 100-pound sacks, $42; red dog, $64; flour, $63. Linseed oil meal, $54 per ton.

Hay and Straw.—There is no change in the situation today. There are fair offerings at 33rd street warehouses and demand about equal to the supply. Brooklyn reports very general clearance. Rye straw steady.

Wheat.—No. 2 red, $2.25.

Corn.—No. 2 yellow, $2.05.

Oats.—No. 3 white, 67c.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Oct. 22, 1017.

Butter.—Wholesale trade was quiet, but prices were steadily maintained on fancy solid-packed creamery, offerngs of which were light. The under grades were little wanted and irregular in value. Fancy prints were scarce and brought outside rates, but unattractive qualities sold slowly and ruled weak.

Western, fresh, solid-packed creamery, fancy specials, 46c; extra, 43½@44c; extra firsts, 43c; firsts, 42½c; seconds, 41@42c; nearby prints, fancy, 48c; average, extras, 46@47c; firsts, 44@45c; seconds, 42@43c; special fancy brands of prints were jobbing at 51@54c.

Cheese.—Trade was slow and prices favored buyers. Offerings were ample.

New York full cream, fancy, June, 26@26½c; specials higher; do., fresh made, best, 25c; do., choice, 24½@24¾c; full cream, fresh made, fair to good, 23½@24c.

NEW YORK MILK MARKET

New York City, Oct. 22, 1917.

Conditions are unsettled. The supply exceeds the demand. The investigations of the high cost of milk continue. Some of the dealers feel that the Dairymen's League has done an unfair thing in entering the retail market thru the grocery stores by cutting prices. Two or three big chains of gocery stores have agreed to sell bulk Grade B milk at 9 and 10 cents a quart, the former price being less than the dealers say they can afford to sell the same goods for. They feel that the League with its surplus funds available for making up deficits is taking the chief customers of the dairymen at a disadvantage. The League rates for Grade B (barn score 55) to the producer in the 26-cent zone are $3.10 a cwt. for 3 percent milk; $3.34, or 7.1 cents a quart, for 3.6 percent; and $3.50 for 4 percent.

The receipts of milk and cream in 40-quart cans for the week ending October 20 were as follows:

Railroad	Milk	Cream
Erie	40,490	1,45
Susquehanna	4,284	46
West Shore	9,690	905
Lackawanna	48,210	1,595
N. Y. Central (long haul) including Rutland	108,348	1,96
Ontario	33,727	1,052
Lehigh Valley	32,042	439
New Haven	2,982	22
Pennsylvania	9,437	375
Other sources	5,990	175
Totals	295,150	8,027
Same week last year	323,208	6,972

ELGIN BUTTER MARKET

Elgin, Ill., Oct. 20, 1917.

Butter, 42c bid; no sales.

CHICAGO HORSE MARKET

Chicago, Ill., Oct. 22, 1917.

Horses were offered moderately last week and sold about as heretofore, with loggers wanted at $150@225 and little southern chunks going mainly at $65@100 for animals weighing around 1,200 lb. Drivers went at $100@200 and drafters at $185@265.

TOBACCO MARKET

The deadlock as to prices continues from week to week despite the persistent negotiation of buyers who now refer to growers as "chasing the rainbow", "riding their high horse" and in other not wholly attractive terms. It is said that if let alone awhile, growers will be reasonable, etc. Never before have growers shown such good judgment and at the price of $25 per cwt. which it seems is being asked in most instances they are not excessive as compared with other products and with the cost of production. However, occasional sales were reported but these may not be real as indicated by the low prices, withholding of names, etc. It is to be hoped that growers will not be induced to sell at present and that they will wait until the quality of product is known and market values are established. The crop is now all cut and housed and the curing season is now so late as to be practically free from the usual danger of pole burn, which is one very favorable feature. As predicted in these columns it has been found by a late Government tabulation that the crop of the present year has been greatly overestimated, both as to yield and condition. It is almost sure that subsequent reports will show further reductions which will be increased by the present unfavorable October curing weather, including snow, sleet, etc., and a temperature averaging some ten degrees below normal. Tobacco which cures slowly and in a low temperature is sure to suffer in quality.—H. E. Tweed, October 22, 1917.

The Voice of the People

This department is reserved for use of our readers to discuss problems and matters of general farm interest. Write your views and comments briefly on any question of social, economic or educational importance and thus share them with others. Such articles should not exceed 200 or 300 words. Publication of such articles does not signify editorial endorsement or agreement.

FARMERS AND MILITARY CAMPS

When we were told that a military camp was to be built near us, we were also told of the advantages that would come to us. We were led to believe that we would have an advantageous market near at hand for everything that we had to sell. We are sorry to say that results have not worked out in just that way. Instead, we find that everything that can be carried away without our knowledge or consent is taken. Apples, peaches, watermelons, milk, cream, corn, potatoes, chickens, pigs and fence rails all seem to be regarded as common booty. Several crops of peaches and watermelons near here were totally destroyed and carried away. One field of 48 rows of potatoes, each 20 yards long, joined in the loss, disappearing in one night. One party was caught going towards camp with some chickens under his arm. When placed under arrest, his plea was that he did not know that the chickens belonged to anyone. He had found them roosting on a fence, he said, and he thought he might as well send them to his wife for Sunday dinner.

The state gravel roads which were built about four years ago are about used up. The townships were bonded to the extent of $40,000 to build them and they were expected to stand for years. But the increased travel and hauling of heavy materials has cut them full of holes and ruts. Some are now being concreted and some are being stoned.

The farm help and wage problems have been the hardest of all for the farmers of this vicinity. The camp contractors are paying 30 cents per hour for any kind of labor on a 10-hour day, and any kind of mechanic can get from $6 to $15 per day. The contractors allow double time for Sundays and time and a half for overtime. Farmers are fortunate if they can get anyone to work a single day at a wage of $4 to $5. All men available say that they can get $3 at the camp and do practically no work. This labor situation together with the petty annoyances that come from the things the men do give the farmers all they care to think about these days.

One farmer had a pasture adjoining government leased land. A part of the fence was removed and the farmer's cows were scattered over the 3,000-acre camp at milking time. Of course many of the cows could not be milked that night and some were not milked the next morning. But all were finally found and the fence returned. Other pastures near the camp have been made absolutely worthless because of the trespassing.

Now if I were sent to some strange section of the country, I am quite sure that I would range around and see what the country looked like on my afternoons off. And I suspect that I would not feel that I was doing much damage in going over fields and farms. But when you figure on from 15,000 to 25,000 men roaming over a country community, considerable damage is certain to result. Fences are certain to be destroyed and gates broken with the resulting damage and loss. These men are not naturally bad or careless. They are just such men as we would be when placed in the same circumstances. And these are times of sacrifice for all of us. We must all bear our part in whatever form it comes. Some there may be that are reaping harvests of gold from the unfortunate condition of the country, but most of us must do our part and take our profits in experience, not gold.—D. S. Croshaw, Burlington Co., N. J.

THE GOLDEN RULE

In Farming and in Big Business

Following is a quotation from a recent issue of the Rochester Herald: "If a farmer will do a bit of reflecting, while gazing at the Golden Rule in a gilded frame hanging on the wall of his home, he will conclude that the price of $2.20 a bushel, which the federal authority has fixed for this year's wheat crop, is a pretty good one. And it is. It is just about a dollar and a half a bushel more than he received for his crop for a good many years—for nearly 30 years, in fact, with very few exceptions.

"Our surmise that the $2.20 will satisfy the reflective farmer is based on the supposition that he is susceptible to the cries of the hungry thousands in the cities who are hard put to eke out an existence under the rapidly advancing costs of living, and the dilatory movement of wages. He will, too, reflect that the city man has valiantly fought his battles against monopoly of every sort and has in reality been the chief factor in every victory which has been scored in the interests of the farming community. The farmer who fails to recognize the wage earner in the towns and cities as a brother in interest makes a sad mistake. Their interests are identical, and their endeavor is toward a common goal."

Yes, the farmers should observe the Golden Rule and sell wheat at about cost while the legal authorities at Chicago charge the Dairymen's League with having violated every anti-trust law on the statute books; while the state laws of New York, New Jersey and Pennsylvania stand by the railroad "full-crew" law which makes the railroads keep four men to do what two men can do and did before that law was passed; while the railroad brotherhoods hold up the U. S. Senate and get ten hours' pay for eight hours' work and double pay for overtime; while the common laboring man, "our brother" in the city, wants from $3.50 to $6.50 for an eight-hour day for doing the same work that he was glad to do 15 to 20 years ago for $1 to $1.50 a day. Nowdays, by the time a workman gets his tools out of a fancy grip and his overalls on, it is time to quit. Some twenty years ago he was glad if he had a pair of overalls to wear.

Yes, farmers, read the Golden Rule. Then go over some Saturday afternoon and see the state road contractor pay your former farm hands more money for two weeks' work than they received for a month's work twelve and fifteen years ago. Go over to the railroad station and see a few freight trains go by and note how many overworked trainmen you see lounging in the caboose. When you get home, read Mr. F. H. Williamson's analysis of the cost of producing an acre of wheat, published in the Pennsylvania Farmer of October 6. Then figure how far behind the times we farmers are. We are told that we need a national organization that will tell us just how much to plant, when to sell, and how much to sell for, so as to regulate our business as other industries are regulated'—R. S., Tompkins Co., N. Y.

FARM BOY PATRIOTISM

Allow me to congratulate Mr. Wm. T. Creasy for the utterance, and the Pennsylvania Farmer for the publication, of his remarks before the Cecil County Farmers at Port Deposit, Md.

One of the most costly limitations of human knowledge is its inability to discern the future. If we had the power of divination, or could even be reasonably certain that this world-wide horror of war would last two, three, or four years longer, Mr. Creasy's letter would not only be welcomed and applauded by one class of men, but it would meet with even stronger appreciation and applause from all classes of patriotic citizens. While few of us think it probable, yet we must admit it is possible, for this war to drag out for two or more years. Conceding this possibility, what is the best thing to do, or what is the highest form of patriotic procedure for us to adopt? Mr. Creasy declares for the exemption of the farmer boy, and intimates that the farm boy desires exemption. Is he right?

One of the reasons why war has been prolonged in the progress of civilized man, is the instinct (call it animal if you will) to engage in conflict and to forcibly resist the powers arrayed against him. The farmer boy is no exception to this rule and (God bless him for it) he is going to respond again to the music of patriotism and follow Old Glory, just the same as the boys of other classes.

To my mind, the earnest co-operation of the government with the press, the clergy and the general good sense and patriotic spirit of all good citizens is required to provide a broader definition of the word patriotism; or, if that is not practical or necessary, to at least strive to have a proper amount of credit given to the "boy" who patiently plods and perspires in the fields of production, and that popular distinction and acclamation be given to the "boy" who stands behind "the man behind the gun" and furnishes power and powder to the soldier boy, as, with a cheer and hurrah, he "goes over the top" of a trench in blood-soaked France.

It seems to me that we should go on the principle that all our young men are patriotic and willing to do their bit in making "the world safe for democracy". Why not "honorable mention" for the farm boy who will feed twice as many soldiers this year as he did the year before, and medals for all the "heroes of production" who toil and broil in the steel mills, or who acquire proficiency in handling the small arms of rake and hoe, or the heavy artillery of mower, reaper and threshing machine?'

Almost every one will admit that the producer is just as necessary for the winning of this war as the soldier or the sailor. If this be so, why then should we award all the honors and medals to only one of these forces?—Oliver McKnight, Philadelphia Co., Pa.

When you Figure it all up ——

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NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

SYNOPSIS OF PREVIOUS CHAPTERS

Henry de Spain had been defeated in a shooting match at Sleepy Cat, by Nan Morgan, of Morgan's Gap. De Spain was disgusted with his showing and anxious to return to his home town. But Mr. Jeffries, Division Manager of the local railroad, offered de Spain a position as General Manager of the stage line running thru Morgan's Gap to Sleepy Cat. He accepts the position and immediately clashes with the Morgan gang. A guard on one of the stages is attacked by Sassoon, one of the Morgan followers, and de Spain sets out to arrest him.

CHAPTER IV (Continued)

"Gentlemen, I thank you," protested Lefever, raising one hand in deprecation, the other resting lightly on his holster. "We still have some little reputation to maintain along the Sinks. Don't let us make it a posse for Sassoon." No one opposed him further. and he rode away alone.

"It won't be any trouble for John to bring Sassoon in," murmured Scott, who spoke with a smile and in the low tone and deliberate manner of the Indian, "if he can find him."

With de Spain Scott remained in front of the barn, saddled horses in hand. They could see nothing of the scene of action, and de Spain was forced in idleness to curb his impatience. Lefever rode down to the inn without seeing a living thing anywhere about it. When he dismounted in front he thought he heard sounds within the barroom, but pushing open the door and looking circumspectly into the room before entering, he was surprised to find it empty.

There was something, under the circumstances and in the stimulus of danger, almost uncanny in the silence, the absence of any life whatever about the place. Lefever walked cautiously inside; there seemed no need of caution. No one was there to confront or oppose him. Surveying the interior with a rapid glance, he walked to the left end of the bar and, gun in readiness, looked apprehensively behind it. Not so much as a strainer was to be seen underneath. He noticed, however, that the sash of the low window on his left, which looked into the patio, was open, and two heelmarks in the hard clay suggested that a man might have jumped thru. Whether these were Sassoon's heels or another's, Lefever decided they constituted his clew, and, running out of the front door, he sprang into his saddle and rode to where he could signal de Spain and Scott to come up.

He told his story as they joined him, and the three returned to the inn. Scott rode directly to the rear. Lefever took de Spain in to the bar, showed him the open sash, and pointed to the heel-prints. De Spain stepped thru the window, Lefever following. An examination showed the slide of a spur-rowel behind one heel-mark and indications of a hasty jump.

While they bent over the signs that seemed to connect their quarry with the place, a door opened across the courtyard, and Pedro appeared. He was curiously dense to all inquiries, and Lefever, convinced that Sassoon was somewhere at hand, revenged himself by searching the place.

In the dark kitchen a very old woman and a slovenly girl were at work. No one else was to be found anywhere.

De Spain, who was the more experienced tracker, thought he could follow the footprints to the arched opening across the patio. This was closed only by a swinging gate, and afforded easy escape from a pursuer. At some distance outside this gate, as de Spain threw it open, sat Bob Scott on his horse. De Spain made an inquiry of Scott. No one had been seen. Returning to Lefever, who, greatly chagrined, had convinced himself that Sassoon had got away, de Spain called Scott into the patio.

A better tracker than either of his companions, Scott after a minute confirmed their belief that Sassoon must have escaped by the window. He then took the two men out to where some one, within a few minutes, had mounted a horse and galloped off.

"But where has he gone?" demanded Lefever, pointing with his hand. "There is the road both ways for three miles." Scott nodded toward the snow-capped peak of Music Mountain. "Over to Morgan's, most likely. He knows no one would follow him into the Gap. Just for fun, now, let's see."

Dismounting, the Indian scrutinized the hoof-prints where the horse had stood. Getting into the saddle again, he led the way, bending over his horse's neck and stopping frequently to read the trail, half a mile out along the Gap road, until he could once more readily point out the hoof-prints to his companions. "That is Sassoon," he announced. "I know the heels. And I know he rides this horse; it belongs to Gale Morgan. Sassoon," Scott smiled sympathetically on Lefever, "is half-way to Morgan's Gap."

"After him!" cried Lefever hotly. De Spain looked inquiringly at the guard. Scott shook his head. "That would be all right, but there's two other Calabasas men in the Gap this afternoon it wouldn't be nice to mix with—Deaf Sandusky and Harvey Logan."

"We won't mix with them," suggested de Spain.

"If we tackle Sassoon, they'll mix with us," explained Scott. He reflected a moment. "They always stay at Gale Morgan's or Duke's. We might sneak Sassoon out without their getting on. Sassoon knows he is safe in the Gap; but he'll hide even after he gets there. He takes two precautions for every other man's one. Sassoon is a wonder at hiding out. I've got the Thief River run this afternoon—"

De Spain looked at him. "Well?"

Scott's face softened into the characteristic smile—akin to a quiet grin—that it often wore. "If I didn't have to go thru today, and the three of us could get to the Gap before daylight tomorrow morning, I would give Sassoon a run for his money in spite of the other fellows."

"Don't take your run this afternoon," directed de Spain. "Telephone Sleepy Cat for a substitute. Suppose we go back, get something to eat, and you two ride singly over toward the Gap this afternoon; lie outside under cover to see whether Sassoon or his friends leave before night—there's only one way out of the place, they tell me. Then I will join you, and we'll ride in before daylight, and perhaps catch him while everybody is asleep."

"If you do," predicted Scott, in his deliberate way of expressing a conclusion, "I think you'll get him."

It was so arranged.

CHAPTER V

Rounding Up Sassoon

De Spain joined his associates at dark outside the Gap. Neither Sassoon nor his friends had been seen. The night was still, the sky cloudless, and as the three men with a led horse rode at midnight into the mountains, the great red heart of the Scorpion shone afire in the southern sky. Spreading out when they rode between the mountain walls, they made their way without interruption silently toward their rendezvous, an aspen grove near which Purgatoire Creek makes its way out of the Gap and, cutting a deep gash along the edge of the range for a hundred miles, empties into the Thief.

Scott was the first to reach the trees. The little grove spreads across a slope half a mile wide between the base of one towering cliff, still bearing its Spanish name, El Capitan, and the gorge of the Purgatoire. To the east of this point the trails to Calabasas and to Sleepy Cat divide, and here Scott and Lefever received de Spain, who had ridden slowly and followed Scott's injunctions to keep the red star to the right of El Capitan all the way across the sinks.

Securing their horses, the three stretched out on the open ground to wait for daylight. De Spain was wakeful, and his eyes rested with curiosity on the huge bulk of Music Mountain, rising overwhelmingly above him. Thru the Gap that divided the great, sentinel-like front of El Capitan, marking the northern face of the mountain rift, from Round Top, the south wall of the opening, stars shone vividly, as if lighting the way into the silent range beyond.

The breathing of his companions soon assured de Spain that both were asleep. The horses were quiet, and the night gave no sound save that vaguely thru the darkness came the faint brawl of tiny cataracts tumbling down far mountain heights. De Spain, lying on his side, his head resting on his elbow, and his hands clasped at the back of his neck, meditated first on how he should capture Sassoon at daybreak, and then on Nan Morgan and her mountain home, into which he was about to break to drag out a criminal. Sassoon and his malice soon drifted out of his mind, but Nan remained. She stayed with him, it seemed, for hours—appearing and disappearing, in one aspect more alluring than another. Then her form outlined in the mists that rose from the hidden creek seemed to hover somewhere near until Scott's hand laid on the dreamer's shoulder drove it suddenly away. Day was at hand.

De Spain got up and shook off the chilliness and drowsiness of the night. It had been agreed that he, being less known in the Gap than either of his companions, could best attempt the difficult capture. It was strictly a coup de main, depending for its success on chance and nerve. The one that tried it might manage to bring out his man—or might be brought out himself. Between these alternatives there was not much middle ground, except that failing to find Sassoon, or in case he should be intercepted with his prisoner, the intruder, escaping single-handed from a shower of bullets, might still get away. But Morgan's Gap men were esteemed fairly good marksmen.

Bob Scott, who knew the recess well, repeated his explicit directions as to how de Spain was to reach Sassoon's shack. He repeated his description of its interior, told him where the bed stood, and even where Sassoon ordinarily kept his knife and his revolver. The western sky was still dark when de Spain, mounting, discussed the last arrangements with his scouts and, taking the bridle of the led horse, turned toward Round Top. At its narrowest point the Gap opening is barely two miles wide, and the one road, in and out, lies among the rocks thru this neck; toward it all trails inside the Gap converge. De Spain gave his horse his head—it was still too dark to distinguish the path—and depended on his towering landmarks for his general direction. He advanced at a snail's pace until he passed the base of El Capitan, when of a sudden, as he rode out from among high projecting rocks full into the opening, faint rays of light from the eastern dawn revealed the narrow, strangely enclosed and perfectly hidden valley before him. The eastern and southern sides still lay in darkness, but the stupendous cliffs frowning on the north and west were lighted somewhat from the east. The southern wall, tho shrouded seemed to rise in an unending series of beetling aretes.

De Spain caught his breath. No description he had ever heard of the nook that screened the Morgans from the outside world had prepared him for what he saw. From side to side of the gigantic mountain fissure, it could hardly be, de Spain thought, more than a few thousand yards—so completely was his sense of proportion stunned by the frowning cliffs which rose, at points, half a mile into the sky. But it was actually several miles from wall to wall, and the Gap was more than as much in depth, as it ran back to a mere wedge between unnamed Superstition peaks.

Every moment that he pushed ahead warned him that daylight would come suddenly and his time to act would be short. The trail he followed broadened into a road, and he strained his eyes for signs, first of life, and then of habitation. The little creek, now beside his way, flowed quietly albeit swiftly along, and his utmost vigilance could detect no living thing stirring; but a turn in the trail, marked by a large pine-tree and conforming to a bend of the stream, brought him up startled and almost face to face with a long, rambling ranch-house. The gable end of the two-story portion of the building was so close to him that he instantly reined up to seek hiding from its upper and lower windows.

From Scott's accurate description he knew the place. This was Duke Morgan's ranch-house, set as a fortress almost at the mouth of the Gap. To pass it unobserved was to compass the most ticklish part of his mission, and without changing his slow pace he rode on, wondering whether a bullet, if fired from any of the low, open windows — which he could almost throw his hat into as he trotted past —would knock him off his horse or leave him a chance to spur away. But no bullet challenged him and no sound came from the silent house. He cantered away from the peril, thinking with a kind of awe of Nan, asleep, so close, under that roof—confident, too, he had not been seen—tho, in matter of fact, he had been.

He quickened his pace. The place he wanted to reach was more than a mile distant. Other cabins back toward the north wall could be seen dimly to his right, but all were well removed from his way. He found, in due time, the ford in the creek, as Scott had advised, made it without mishap, scrambled up a steep and rocky path, and saw confronting him, not far ahead, a small, ruinous-looking cabin shack. Dismounting before this, he threw his lines, shook himself a little, and walked up to the cabin door. It was open.

The mild-minded conspirators who had planned the details of the abduction were agreed that if the effort could be made a success at all, there was but one way to effect it, and that was to act, in every step, openly. Any attempt to steal on Sassoon unawares would be a desperate one; while to walk boldly into his cabin at daybreak would be to do only what his companions were likely at any time to do, and was the course least calculated to lead to serious trouble. None of the three were unaware of the psychological action of that peculiar instinct of danger possessed by men habitually exposed to surprise—they knew how easily it may be aroused in a sleeper by the unusual happening about him, and how cunningly it is allayed by counterfeiting within his hearing the usual course of normal events.

De Spain, following the chosen policy, called gruffly to the cabin inmate. There was no answer. All had sounded extremely plausible to de Spain at the time he listened to Bob Scott's ingenious anticipation of the probabilities, and he had felt while listening to the subtle Indian that the job was not a complicated one.

But now, as he hitched his trouser band near to the butt of his revolver with his right hand, and laid his left on the jamb of the door with an effort to feel at home, stepped unevenly across the threshold, and tried to peer into the interior darkness, Scott's strategy did not, for some reason, commend itself quite so convincingly to him. There seemed, suddenly, a great many chances for a slip in the program. De Spain coughed slightly, his eyes meantime boring the darkness to the left, where Sassoon's bed should be. The utmost scrutiny failed to disclose any sign of it or any sound of breathing from that corner. He took a few steps toward where the man should be asleep, and perceived beyond a doubt that there was no bed in the corner at all. He turned toward the other corner, his hand covering the butt of his gun. "Hello, Shike!" he called out in a slightly strained tone of camaraderie, addressing Sassoon by a common nickname. Then he listened. A trumpeting snore answered. No sound was ever sweeter to de Spain's ear. The rude noise cleared the air and steadied the intruder as if Music Mountain itself had been lifted off his nerves.

He tried again: "Where are you, Shike?" he growled. "What's this stuff on the floor," he continued, shuffling his way ostentatiously to the other side of the room. But his noise-making was attended with the utmost caution. He had dropped, like a shot, flat on the floor and crawled, feeling his way, to the opposite side of the room, only to find, after much trouble, that the bed in the darkness was there, but it was empty. De Spain rose. For a moment he was nonplussed. An inside room remained, but Scott had said there was no bed within it. He felt his way toward the inner door. This was where he expected to find it, and it was closed. He laid a hand gingerly on the latch. "Where are you, Shike?" he demanded again, this time with an impatient expletive summoned for the occasion. A second fearful snore answered him. De Spain, relieved, almost laughed as he pushed the door open, tho not sure whether a curse or a shot would greet him. He got neither. And a welcome surprise in the dim light came thru a stuffy pane of glass at one end of the room. It revealed at the other end a man stretched asleep on a wall bunk—a man that would, in all likelihood, have heard the stealthiest sound had any effort been made to conceal it, but to whose ears the rough voices of a mountain cabin are mere sleeping-potions.

The sleeper was destined, a moment later, to a ruder awakening than even his companion outlaws ever gave him. Lying unsuspectingly on his back, he woke to feel a hand laid lightly on his shoulder. The instinct of self-preservation acted like a flash. His eyes opened and his hands struck out like cat's paws to the right and left; no knife and no revolver met them. Instead, in the semi-darkness a strange face bent over him. His fists shot out together, only to be caught in a vise that broke his arms in two at the elbows, and forced them back against his throat. Like lightning, he threw up his knees, drew himself into a heap, and shot himself out, hands, arms, legs, back, everything into one terrific spring. But the sinewy vise above only gave for the shock, then it closed again relentlessly in. A knee, like an anvil, pushed inexorably into his stomach and heart and lungs. Another lay across his right arm, and his struggling left arm he could not, tho his eyes burst with the strain from their sockets, release from where eagle-like claws gripped at his throat and shut off his breath.

Again and again, with the fury of desperation, Sassoon drew in his powerful frame, shot it out, twisted and struggled. Great veins swelled on his forehead, his breath burst in explosive gasps, he writhed from side to side—it was all one. After every effort the cruel fingers at his throat tightened. The heavy knee on his chest crushed more relentlessly. He lay still.

"Are you awake, Shike?" Sassoon heard from the gloom above him. But he could not place the voice. "You seem to move around a good deal in your sleep. If you're awake, keep still. I've come from Sleepy Cat to get you. Don't mind looking for your gun and knife. Two men are with me. You can have your choice. We've got a horse for you. You can ride away from us here inside the Gap, and take what hits you in the back, or you can go to Sleepy Cat with us and stand your trial. I'll read your warrant when the sun gets a little higher. Get up and choose quick."

Sassoon could not see who had subdued him, nor did he take long to decide what to do. Scott had predicted he would go without much fuss, and de Spain, now somewhat surprised, found Bob right in his forecast. With less trouble than he expected, the captor got his man sullenly on horseback, and gave him severely plain directions as to what not to do. Sassoon, neither bound nor gagged, was told to ride his horse down the Gap closely ahead of de Spain and neither to speak nor turn his head no matter what happened right or left. To get him out in this manner was, de Spain realized, the really ticklish part of the [illegible].

Fortune [illegible] his ass[illegible] [illegible] trotted [illegible] down the [illegible] ering a sign of life. When they approached the Morgan ranch-house de Spain again felt qualms. But he rode close to his prisoner, told him in restrained monologue what would happen if he made a noise, and even held him back in his pace as they trotted together past the Gap stronghold. Nevertheless, he breathed more freely when they left the house behind and the turn in the road put them out of range of its windows. He closed up the distance between himself and Sassoon, riding close in to his side, and looked back at the house. He looked quickly, but tho his eyes were off his path and his prisoner for only a fraction of a second, when he looked ahead again he saw confronting him, not a hundred yards away, a motionless horseman.

CHAPTER VI

Heels For It

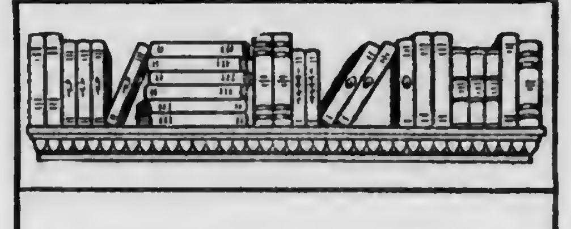
With a sudden, low command to Sasson to check his horse, and without a movement that could be detected in the dawn ten yards away, de Spain with the thumb and finger of his hand lifted his revolver from its scabbord, shifted his lines from his left hand to his right, rode closer to Sassoon and pressed the muzzle of the gun to his prisoner's side. "You have one chance yet, Shike, to ride out of here alive," he said composedly. "You know I am a rustler—cousin of John Rebstock's. My name is 'Frenchy'; I belong in Williams Cache. I rode in last night from Thief River, and you are riding out with me to start me on the Sleepy Cat trail. If you can remember that much—"

While he spoke to Sassoon his eyes were fixed on the rider halted in their path. De Spain stopped halfway thru his sentence. The figure revealed in the half-light puzzled him at first. Then it confused and startled him. He saw it was not a man at all, but a woman—and a woman than whom he would rather have seen six men. It was Nan Morgan.

With her head never more decisively set under her mannish hat, her waist never more attractively outlined in slenderness, she silently faced de Spain in the morning gray. His face reflected his chagrined perplexity. The whole fabric of his slender plot seemed to go to pieces at the sight of her. At the mere appearance of his frail and motionless foe a feeling of awkward helplessness dissolved his easy confidence. He now reversed every move he had so carefully made with his hands and, resentfully eyeing Nan, rode in somewhat closer behind Sassoon, doing nothing further than to pull his kerchief up about his neck, and wondering what would be likely to happen before the next three minutes were up. Beyond that flash the future held no interest for him—his wits temporarily failed.

Of one thing he felt assured, that it was in no wise up to him to speak or do first. He could already see Nan's eyes. They were bent keenly first on him, then on his companion, and again on him. De Spain kept his face down as much as he dared, and his hat had been pulled well over it from the beginning. She waited so long before accosting the two men that de Spain, who was ready to hope any improbable thing, began to hope she might let them pass unchallenged. He had resolved, if she [illegible] not speak, to push past without [illegible] looking at her. They were now [illegible] abreast. His fine resolution [illegible] smash overboard. The very instinctive knowledge that her eyes were bent on his made him steal a glance at her in spite of himself. The next instant he was shamefacedly touching his hat. Tho nothing was lost on her, Nan professed not to see the greeting. He even continued to dream she did not recognize him. Her eyes, in fact, were directed toward Sassoon, and when she spoke her tone was dry with suspicion.

(To be Continued.)



PIECES to SPEAK

We shall be glad to procure and publish poems in this department on request if possible. We believe that the old-time custom of learning and speaking pieces at school and public gatherings should be encouraged, and we desire to aid in such work by publishing suitable pieces.

THE RIGHT OF WAY

I've ceased to ride with Ezra Green,
Who drives a fine high-powered machine;
I'd rather walk for miles in dust,
Than let him hold my life in trust.
On hot and sticky days, by far
I'd rather take a trolley car
Than risk the dangers of the street
On Ezra's richly cushioned seat.
For Ezra is the sort of jay
That boasts about his right of way.

Bound north or south, he gives her gas,
And will not let a stranger pass;
At crossings never once he slows
And madly on the road he goes,
And when I mention caution, he
Then looks scornfully at me
And this is all I hear him say:
"Don't fret. I've got the right of way;
The other chap must careful be,
It's up to him to stop for me."

It's hard to sit in comfort cool
Beside a driver who's a fool;
Altho I have a worthless neck,
I would not risk it in a wreck,
Nor would my precious blood I draw
By folly countenanced by law.
It would not help me when I am dead
And my poor soul above has fled,
To have the judge and jury say:
"Deceased possessed the right of way."

So now when reckless Ezra Green
Invites me into his machine,
Politely some excuse I give
And spurn his ride that I may live.
I fear too much when I am out,
The right of way he boasts about:
This thought is always at the top:
Some day the other chap won't stop,
And graveyards choke with men today
Who trusted to their right of way.

—Edgar A. Guest in Milestones.

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Fitting Sheep to the Farm

Sheep on an Orchard Farm

The profits from sheep raising depend upon the size of the farm, the crop rotations, the number of other animals kept on the farm, and the particular economies practiced in feeding and handling the flock. In these days of changing agricultural conditions one must always be alert to new opportunities. Methods that were in vogue twenty years ago are in many instances obsolete today. Every farmer must work out the problems as they apply to his own farm and plan to keep his flock producing profitably at a minimum cost for feed and labor.

In discussing the problems of fitting sheep to farm conditions I have in mind a successful western New York fruit grower and stockman who is making a small flock of sheep pay fine profits. Mr. J. Froats has a farm of 156 acres of nearly level land of which about 20 acres is occupied by apple and pear orchards. The farm supports a herd of from 24 to 28 Guernsey cattle, a small herd of Berkshire hogs and two work teams, besides the flock of sheep. In discussing his system of feeding and handling his sheep Mr. Froats said:

Southdown Yearling Ram Obtained by Penn State College from Robt. McEwin & Son's Flock, Ontario, Can.

"We give our orchards about the same general treatment as other orchard owners in this part of the state, except that we pasture our ewes and lambs in the apple and pear orchards during a portion of the grazing season. For green manure and cover crops we use red clover, timothy, rye, oats and peas and rape. These crops are seeded and managed about the same as other orchardists utilize them, but are pastured with sheep before we plow them under; the ewes and lambs having an opportunity to graze down a portion of the crops. The season before the older apple orchards are due to produce a full crop of fruit we prepare the soil about the middle of August, and the first week in September sow one bushel per acre of rye and four quarts of timothy seed, and along in the spring just as the frost is leaving the ground sow 6 quarts per acre of red clover. This furnishes abundant late fall and early spring grazing, a few days' picking for the sheep when the rye is headed out, and good grazing for the flock after the apples are harvested. At picking time the soil under the trees is covered with just enough turf to prevent the fruit that drops from the trees from becoming bruised and muddy. The sheep clean up all of the inferior, wormy apples that are on the ground before picking begins. By the time winter sets in the clover and timothy, if not pastured too closely, will make sufficient growth to hold the snow from blowing away.

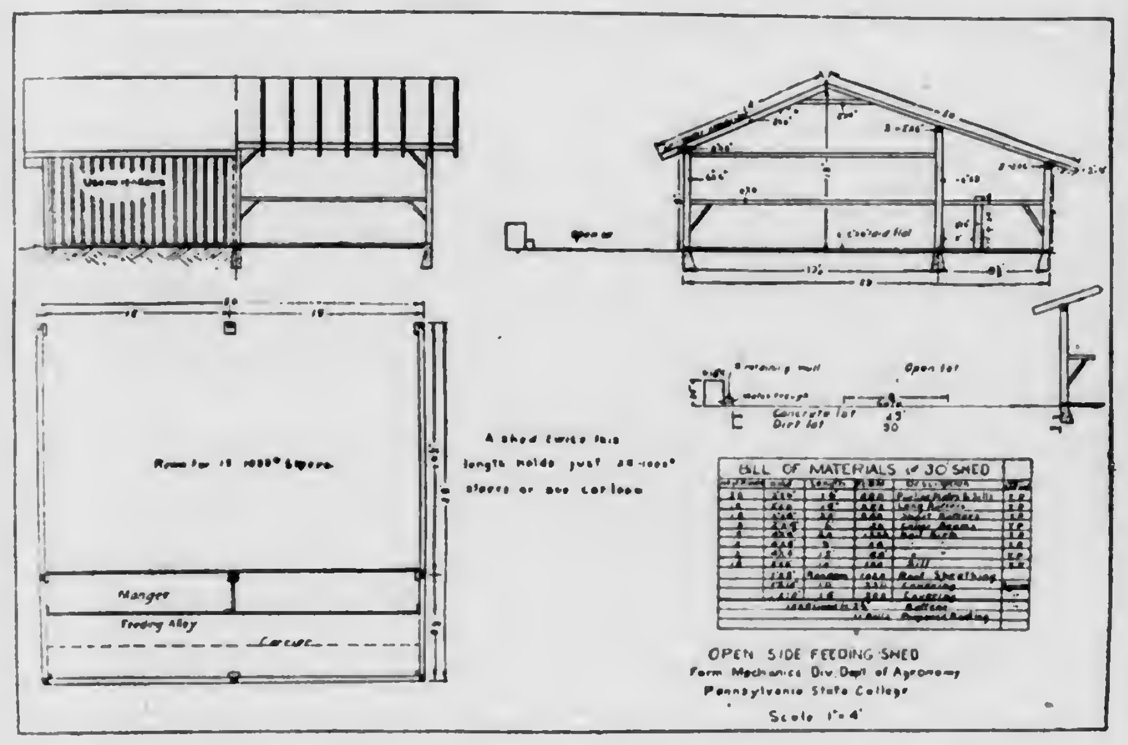
"Rape, turnips, mammoth red clover and oats and peas mixed are used for fertilizing and cover crops in the young apple orchards, and pastured with lambs that are being fitted for market and ewes that are flushed just before the breeding season. By pasturing moderately in the fall abundant growth is left to protect the trees in the cold weather and the ewes and lambs are in fine condition to go into their winter quarters.

"When the lambs are weaned, which is about the first or second week in September, the ewes are turned into the pasture with the cows to clean up the weeds and sprouts. The exercise and scant grazing is an aid in checking their flow of milk and the pasture is benefitted by them being in it. Weeds come to trouble pastures. Many farmers make it a practice to mow their pastures, but we think it is a much better plan to turn a few ewes into the pasture with the cows. The sheep do not injure the grasses and clovers; besides, they destroy many kinds of noxious weeds. One ewe with each cow in the pasture for several weeks at this time does no appreciable damage and is a great aid in subduing some of the most troublesome weeds. This is a sort of grass land management that must be understood to be appreciated; in it lies great profit and satisfaction in seeing pastures clean of weeds. The sheep love many common weeds, ragweed among them."

Mr. Froat's orchards are fenced on the sides with woven wire and cross-fenced with hurdles and woven-wire, attaching only a few of the lateral wires to the temporary posts. With strong side fences it is an easy matter to change pastures as the growth of the forage crops require, and one man can handle the flock to good advantage. A few acres of broken pasture land on one side of the orchards is utilized for sheep pasture. This pasture connects with the orchards in three places so that it requires only a few minutes to change the sheep as the occasion demands. The cow pasture is fenced with woven-wire, but this should not be charged up against the sheep end of the business, because they are only pastured for a few weeks to clean up the weeds and sprouts after the cows have gathered the best of the feed.

For winter feeds clover, mixed hay, straw and silage make up the roughage rations for the ewes. Corn, oats and oil meal are fed twice a day in small amounts. The lambs that are being conditioned for the winter market are fed the same feeds, but in different amounts. These are the feeds grown on the farm for the dairy cows and other stock, no special crops being grown for the sheep. The sheep sheds open off one end of the dairy barn, and the bits of roughage and dry grains in the feeding alleys are swept along the floors into the feed-racks in the sheep sheds.

In discussing the question of pasturing sheep in the orchards at times when the cover and fertilizing crops are making a rank growth, Mr. Froats said: "Our sheep have never injured the trees, and it is a positive benefit to the soil to partially graze down the cover and fertilizing crops before plowing them under. Of course one must use good judgment in pasturing the orchards and changing the sheep from one field to the other. It is unwise to attempt to keep too large a flock. We keep about 36 ewes and from 4 to 60 lambs and young rams. The 20 acres of orchard and 12 acres of pasture furnish good grazing for the ewes and lambs during the pasture season and also leave an abundance of humus-making material to plow under for fertilizer. We use liberal quantities of commercial fertilizers to nourish the cover and fertilizing crops and directly nourish the trees. Our apple and pear crops make good yields and the apples are of superior color and quality to those grown on land that is worked more intensely and the cover crops grown only to protect the trees during the winter months."—M. W. K.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Plans for Open Steer Shed Suggested by Pennsylvania State College.

ALFALFA IN CENTRAL NEW YORK

A trip thru the Central New York alfalfa belt proves to be a revelation to the average eastern farmer. Recently the writer visited the large farm of F. E. Dawley, in Onondaga County, on which was grown the alfalfa that won the grand prize medal at the Panama-Pacific Exposition in competition with all the Western states. This farm is situated on the hills, and for many miles around as far as we could see nearly every green field was alfalfa. Alfalfa covers nearly one-third of the cultivated area in this section. The soil is limestone, yet Mr. Dawley finds it profitable to use 100 tons of lime a year on his farm. He has purchased a lime crusher and is grinding up the old stone walls that abound on the place.

Several years ago a large number of alfalfa varieties were grown on the Dawley farm under government supervision. The Grimm proved to be the best adapted to our cold Northern locations, and is grown largely on this farm. One field seeded in 1904 from seed provided by the government is in good condition at the present time and producing three good crops a year. Later sown fields, however, were showing a better stand. A small patch of the Grimm alfalfa was left for seed, but the seed crop is very short owing to unfavorable weather conditions. Mr. Dawley has seeded alfalfa with oats and other grain crops, but he favors sowing the seed alone, early in August.

Alfalfa has made this section of Central New York an extensive dairy district with many fine herds of Holstein-Friesians and modern buildings and equipment, but Mr. Dawley is specializing in sheep raising, having a flock of 714 Cheviots and Karakuls grazing on his pastures and rape fields. —R.

SHEEP RAISING IN NEW JERSEY

The hill farms of New Jersey 50 years ago were acquainted with sheep growing. There seems to be but one reason for their gradual disappearance and that is the destructiveness of dogs. The Federal census for 1910 shows that there were 30,600 head of sheep of all ages in the state compared with 47,700 in 1900. Since 1910, however, it is certain that the annual reduction has been much greater. There were hopes a year or two ago that well-built fences would be used and the sheep industry again brought back to New Jersey. Since war prices have affected steel, the fence as a protector is not to be considered. Many eastern states have begun the rebuilding of this business by enacting radical dog laws. It seems that it is not simply a matter of preventing dogs from killing sheep but they must be prevented from chasing them. The most natural thing in the world for an ordinary dog unattended in the country is to chase any living thing that will run away from him. A herd of sheep chased in this apparently harmless way becomes terrified for life. They no longer have confidence in their own caretaker but will rush out of sight on the slightest provocation. Such a herd is worthless from a production standpoint. New Jersey could keep half a million sheep on its grassy hillsides where now brambles and bushes present only an eyesore to the traveler. —N. J. Department Letter.

The United States Livestock Industry Committee, appointed by the Secretary of Agriculture and the Food Administrator, says: "Extend to the utmost the organization of pig clubs under the direction of the Federal Department of Agriculture and in co-operation with the state agricultural colleges."

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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Abnormal Appetite.—I have a seven-year-old mare that seems to have an abnormal appetite. When she is allowed to run loose, she will leave good, well-cured fodder and eat manure. H. W., Sussex, N. J.—Mix together equal parts ground ginger, gentian, bicarbonate of soda, red cinchona and air-slacked lime. Give her two tablespoonfuls at a dose in each feed. Her food supply should be changed twice a week.

Sows Fail to Come in Heat. — I have five registered sows that farrowed their first litters between Feb. 20, 1917, and July 6, 1917. I weaned the pigs at eight to twelve weeks of age and in two or three weeks expected these sows to show signs of heat. Not one of the five sows have shown any sign of heat to date. One of the sows shows some discharge from vagina. Are these sows diseased? If so, what is the best thing to do? H. C. D., Kimberton, Pa. — Dissolve one dram permanganate of potash in one gallon of clean boiled water and wash out vagina of sow that has vaginal discharge daily. You had better use a fountain syringe and a pint of this solution at body temperature, daily. Mix together equal parts bicarbonate soda, ginger, gentian and red cinchona. Give each sow a teaspoonful at a dose in feed, twice a day. They should be fed stimulating food. In cases of this kind, unsatisfactory results are very often obtained by giving drugs. Are you sure that your sows do not suffer from contagious abortion infection? Sows that are shy breeders are often unprofitable, therefore, it might be a mistake for you to depend upon these sows for breeders.

Stomach Worms.—Could you give us a safe remedy for kittens troubled with stomach worms? D. W. T., Wattsburg, Pa. — Giving two or three drops of gasoline in a tablespoonful of sweet milk occasionally, or from one to four drops of turpentine in either olive oil or castor oil, will destroy stomach worms in kittens. As you perhaps know, they should be carefully medicated and best results are obtained when the stomach and bowels are fairly empty.

Wart on Udder.—I have cow with wart on udder which interferes with milking. Wish you would tell me how it can be removed. E. H., Edison, Pa.—The most satisfactory way to treat this case is surgical removal of the wart. If you do not care to cut it off, apply a saturated solution of salicylic acid in alcohol to wart, three times a week, and it will soon take it off.

Worms.—I would like to have you tell me what to do for one of my mares. She has worms, keeps thin, but has good appetite and is fairly well fed. She is suckling a colt six months old. I have fed her condition powder, but am unable to tell that it is doing her any good. This mare has worked hard all summer. M. M., Springsboro, Pa. — First of all, you should wean her colt. Feed some corn with oats and let her have all the well-cured mixed hay she will eat. Give her one dram powdered sulphate iron, one dram salt, one dram ground nux vomica and one ounce ground gentian at a dose in soft feed, twice daily. She should be exercised daily but not overworked. Then she will soon commence to thrive and lay on flesh.

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Community Buying of Dairy Feeds

How One Community Solved the Problem and Saves Money

By W. F. TAYLOR

MICHIGAN

The Dairymen's League plan of buying dairy feeds should give new impetus to community buying. We have practiced co-operative buying for a number of years and have found it so satisfactory that we would not consider a change. Experience is the final test of any theory or plan, so we may perhaps be pardoned if we speak with considerable confidence in the following discussion.

Ours is a country where the soil is none too fertile, but where the old cow is established and is being bred and fed more and more efficiently every passing year. It is twelve years this fall since our first experiment was made. We wanted cottonseed meal, and no dealer in our county handled it. We could not find orders enough to make up a car, and it cost too much by the single ton. But we learned that a Pomona Grange in an adjoining county was situated exactly as we were. We asked them if they could use half a car, and they promised to do so. They agreed to allow the car to stop at a town midway between the two locations. From our neighborhood we went south about twelve miles, and from theirs they came north nearly that far, and we unloaded our first car of cottonseed meal.

The Purchase Plan

No trouble was experienced in handling the feed as every one paid the cash at delivery time. The next year we handled a car in our own neighborhood, and the following year two cars. One of our good dairymen handled the first car. He told me in confidence afterwards that in some way in making change at the car he lost ten dollars. I told him never to try to make change at the car again, and never to handle a car of feed for nothing. We talked it over and arrangements were made with the bank to receive the money from the parties purchasing feed, so that it was no longer necessary to handle cash at the car. All of our cars were shipped with sight draft attached to bill of lading. When the car arrived, the neighbor who handled the feed would arrange with the cashier of the local bank, take the bill of lading and after paying the freight, open the car and begin the delivery.

Probably, by this time, from five to fifteen more teams would be in waiting, and the delivery would move off as fast as the sacks could be handled. Each man would drive to the bank as soon as his load had been put on, stop and pay for his feed, and by night the money would be on its way to the city from which the feed was secured, and the feed would be in the farmer's barns.

Creamery Helps

Later our creamery began the handling of feed in much the same way. This relieved our good neighbor of his responsibility and gave equally good service to the community. The creamery company always had money on deposit at the bank, up to the time of payment for the butterfat delivered during the month, and so it cost nothing to furnish the cash to take care of the sight draft. The patrons could take the feed from the car and pay for it out of their next creamery check.

If any one could not spare the money at the time, he was usually given another month in which to pay and the creamery advanced the cash for him. This plan has never resulted in loss to the creamery as our patrons are very loyal to the creamery and so they stick; and sticking, they are sure to have another check from which the price of the feed may be taken. But all our dairymen do not market their cream at this plant, and so all did not obtain feed in this way.

A Good Supply of Silage is a Cheap Supplement to Purchased Feed

Five or six years ago we began handling some of the by-product feeds. Many thousands of dollars' worth of these feeds have been received and as nearly as I can recall, not a single dollar has been lost on account of failure of any person to pay for feed purchased. The rule is cash at delivery without exception. We have saved a great deal of money by paying cash. Time and again I have received favors from the company on account of the amount of feed purchased and the absolute certainty that there would be no question about the draft being honored when the car arrived. We have begun the handling of other feeds, not in opposition to the creamery, but rather to supplement its efforts to serve the public. Within a few weeks we have ordered two cars of middlings and one car of bran, and shall have to order another in a few days. How much it will take to grow our pigs and help feed our cows, I do not know, but we shall buy it in this way.

Agent's Fees

The next question is, what is it worth to handle feeds in this manner? Well, we have performed the service in all cases where a car was handled at a time, at practically fifty cents per ton. The creamery makes the same charge and, so far as I know, both have been satisfied. I have traveled well over Michigan, and do not know of another community that buys anything like the amount of feeds directly that we do, but it is very clear that the only reason is that no one has undertaken to work up the business.

But has the farmer time to do this work for himself? Might he not better let the dealer perform the service for him? It may be that in a few localities the dealers are better able to handle the feed stuffs, but I am sure that in a majority of cases this is not true. The time required to make up orders for a car of feed is not very great. Our feed business goes along itself, for the most part. Orders for feed come in over the phone, and we list them up as they are given. Often while delivering one car we secure orders for half of the next one. The delivery takes a day, and sometimes a part of the next day. Ten dollars pays us pretty well for our time.

Easy Collections

But what about the risk taken by the man who orders the feed? If he has done the business on business principles, there is very little risk. We have one man here whose credit is not very good. A merchant said to me one day that he was the hardest man to get money out of in the whole community. But that man pays for his feed at the car just as readily as any other man. He wants the feed; he can buy it of us cheaper by several dollars a ton than from any one else, and so he buys nearly every time we have a car. It is decidedly interesting to see that man pay up for all the world like a thoroly reliable citizen. I am convinced that he intends to be reliable but he has gotten in the habit of being trusted for so much that he buys, and of buying beyond his ability to pay, and this has injured his reputation.

Local Dealers' Interest

But ought the farmer to handle his own feed? The dealer pays taxes in town. He has gone to the trouble and expense of preparing to handle it. Is it fair for the farmer to handle his own and thus deprive the dealer of the business? If any man objects, let me ask him another question: Would it not be entirely proper for another business man to establish himself in that town and sell feed? If so, why should the farmer hesitate to handle his own, on account of any loss of trade to the dealer?

When we began, our dealers did not like it. They objected strongly and said some very plain things about certain of our farmers who did not pay them promptly. Of course in there remarks they were careful always to except present company. We replied about as follows: "You are

(Concluded on page 7.)

Drainage Systems for Eastern Farms---II

Methods Used for Different Conditions

By R. A. ANDREE

The open ditch has so many objectionable features that it should be tolerated only where absolutely necesary. Its use is permissible as an outlet for tile drains or to cut off the seepage from the uplands. They can often be laid along fence lines or roads so as not to cut up the land or be in the way. They should not be used where they cut up the fields in any way. Open ditches are often more expensive in the long run than a good tiling system since they must be cleaned out every so often, take up valuable land, and cannot be crossed over very readily. They are a breeding place for weeds and vermin. The biggest objection to open ditches is that they become a nuisance when neglected and unfortunately they are all too often neglected.

Surface Run

The surface run is principally used as an aid to underdrains by removing surface water during floods or as a desirable substitute for some open ditches. They are often placed directly over some main line of tile so that the latter can drain the run of any water which might otherwise remain standing on it sufficiently long to kill the grass. Erosion must be prevented in a surface run and therefore its sides and bottom must be well sodded. Fig. 4 shows a well-made surface run. It is 15 feet wide and gradually slopes toward the center where it is 1½ feet deep. This allows machinery to be hauled over it and also permits the use of a mower in cutting the grass and keeping down the weeds.

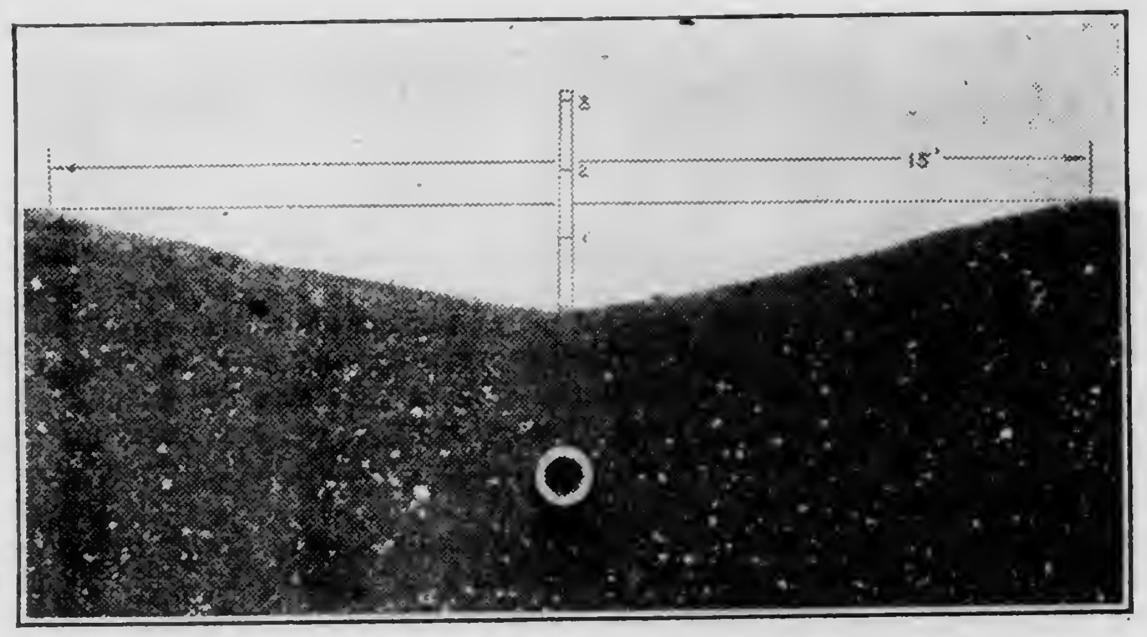


Fig. 4.—A Surface Run With Underdrain Correctly Placed

Such runs are especially efficient when surface water is led into them by means of a few well chosen dead furrows. Dead furrows, if sufficient in number and located properly, can become very efficient aids to drainage. They could not, of course, take the place of tile, but their value should not be overlooked. When placed about 70 feet apart and cleaned out after seeding, they will give returns far in excess of the cost of their construction.

A Makeshift Outlet

It sometimes becomes necessary to lead the drainage water from a tiling system into a temporary open ditch which carries it to a stream or to some point which is later to become a permanent outlet. This open ditch is known as a makeshift outlet and is usually 3 or feet deep with rather steep sides. Such a ditch should never be dug with the idea of making it a permanent improvement. It is well to plan it so that it can later be laid with tile and then filled up after having served its purpose for a year, or in emergencies, possibly for two years.

Tile Drains

Tile drains when properly laid are the only permanent means of draining a piece of land. No one can afford to lay tile unless the improvement is to be permanent. It is therefore wise to carefully study all the different systems applicable before proceeding with the work. Do not waste time and money by laying tile to last for five or six years, but lay them to do their work forever. A hurry-up job of laying tile is an expensive proposition.

The System and Its Place

Fig. 5 is an illustration of the herringbone system of laying out drains. This system, altho it presents some objections, must be used in some cases. It is especially adapted to draining depressions which lie between two hills and which have a definite slope in some direction. See Fig. 6. The objection to this system is that it usually has a long main line into which many short laterals flow. It is much more economical to have a short main with long laterals because there is not so much double drainage. Not that double drainage in itself is objectionable, for we know that overdrainage is impossible, but it takes more tile than is absolutely necessary. Each lateral drains the soil from end to end, while the main could also do some drainage. This makes an area on each side of the main which is double drained.

Fig. 7 is an illustration of the gridiron system of drainage, which has the advantage of short mains and long laterals. It is adapted to flat areas or to those with only one general slope. This system should be used where practical. Many hillsides and the adjoining flat lands in Pennsylvania are wet, due to seepage water. The flat land in many cases cannot be successfully drained by the gridiron system alone unless very many laterals are used. Where it could be drained in this way it would be cheaper to put in a cutoff run, as shown in Fig. 8. Should this not prove sufficient a small gridiron system could be added as shown in Fig. 9.

The cutoff run should be located at the base of the slope if possible. If located higher up it loses some of its efficiency. It is of some advantage to partly fill the ditch of the cutoff run with loose stones and gravel, so as to arrest as much seepage water as possible. Treating the main drainage system in this way is of no advantage, and should not be done unless it is desirable to get rid of the stone. Even in this case the tile should first be covered with six inches of earth.

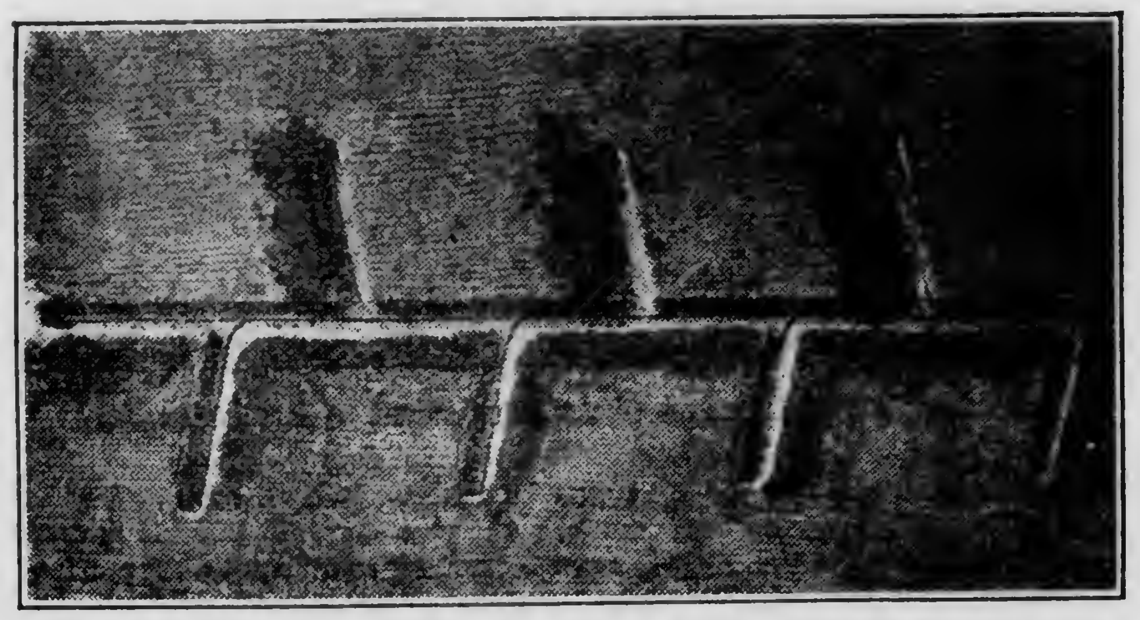


Fig. 5.—Herringbone System of Main Line of Drainage

A seepage tap is shown in Fig. 10. Where springs or small seepage areas are to be drained, it is necessary to run the tile right thru, and a few feet beyond, the wet spot. It is not sufficient to run the tile up to the spring as it appears on the surface, for this will only partly remedy the trouble.

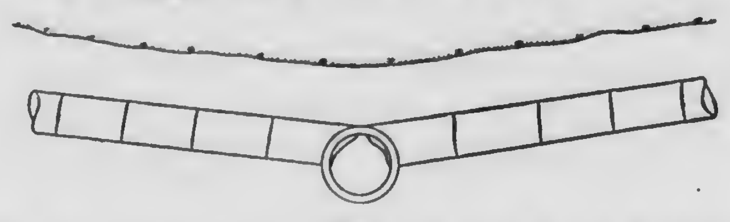


FIG 6

Fig. 6.—Sectional View of Herringbone System. Laterals Enter Mains Near the Top

A number of scattered wet spots can be drained by what is known at the natural system, as shown in Fig 11. A little planning usually enables one to lay out such a system so as to use as little tile as possible. That part of the system which is not actually necessary as a drain, but simply carries the water to the outlet, is known as a conducting drain. Since such a drain is likely to impart a little water to the soil at certain times of the year, the roots of trees, especially willows, will find their way into the tile and soon clog them. Trees and shrubs should therefore not be allowed to grow in the vicinity of conducting drains, unless the latter can be placed exceptionally deep.

The double main system must occasionally be used when a single main would either necessitate placing the laterals too shallow or otherwise would require the main to be too deep. Fig. 13 explains its use.

A vertical drain, as shown in Fig. 14, may be used to advantage in draining some springy areas, or such potholes which are surrounded by high land so that it would necessitate very deep and expensive ditches in order to drain them. Where this system can be installed, it proves a great saving, but care should be exercised not to build one where water is likely to rise in them instead of sinking and disappearing. In places where there is an underlying layer of hardpan a vertical drain often proves successful.

The Food Situation In France---III

By FRED B. PITNEY

The French government is very bureaucratic, but the French people do not like to be overgoverned. They object seriously to anything that savors to them of meddling in a man's private affairs. For this reason it has been extremely difficult to get a workable income tax law in France. The people immediately rose against the proposal to give the government the right to examine their books and find out if they told the truth about their incomes, or find out what their incomes were, if they failed to make a return. So a scheme was figured out for taxing a man on seven times his rent, if he made no income tax return, or one the government thought too low.

Saying how much or what a man shall eat is, also, getting pretty close to private affairs, and therefore, the French government, knowing intimately the people it has to deal with, is slow—s-l-o-w—in coming to such measures, even in face of the only too evident food shortage in the country. There have been efforts at price fixing, but they have not worked satisfactorily, one reason being that they have not been national but local. Paris, for example, has tried fixing the price of butter, but it has been found that the result has been to drive butter away from Paris to localities where it could be sold for what the market would pay.

National Price Fixing To Be Tried

A scheme of national price fixing is to be tried now with beans and potatoes. Both of these crops are far below the requirements of the country. I have seen many days when potatoes could not be bought in Paris, and it was a common thing last winter to have to run over half the city to find a market where green vegetables could be bought. The national price fixing scheme for beans and potatoes will divide the country into districts and fix the price for each district, with a penalty for sending either commodity out of the district without permission.

So far, meat has withstood all efforts to control its consumption—there has been no attempt to control its price—and yet it is vitally necessary either to control the consumption of meat in France or to increase the supply. Otherwise, the end of the war will see the country so reduced in its herds that it will take many years to bring them back again to the point where France will be once more self-sustaining.

Supply Must Be Increased

Of course, the thing to do is to increase the supply. When a country has had its bread stuffs cut down to the extent to which France has suffered, the people naturally fall back on meat. One might think they would fall back on vegetables, but the same reasons that have deprived them of grains have deprived them of vegetables. There have not been the hands to cultivate the ground. They could no more raise vegetables than wheat. And they have fallen back on beef, mutton and pork. The herds existed and they have been eaten up. The people had to have something to eat.

To what extent the herds have disappeared is shown by the cutting down of the meat ration of the soldiers at the front. At the beginning of the war they were allowed one pound of meat a day. Twenty percent has now been cut from that allowance. And I will point out again that only dire necessity will countenance reducing the food allowance of soldiers at the front.

Meat Shortage Serious

Civilians, naturally, were the first to suffer, when meat became scarce. The price went soaring. Retail prices to consumers doubled and trebled. The poor cut down in quantity, and the very poor went without entirely. But those who could pay could have meat, if they were willing to give the price.

The time came, however, when there had to be an attempt to control the consumption. The army requires 36,000 tons of meat a month, or 432,000 tons a year. France's herds suffered enormously at the very beginning of the war. A total of approximately 2,500,000 cattle, sheep and hogs from the French herds were seized by Germany in the invaded provinces. Coming immediately on top of this loss France found herself compelled to find food for some millions of Belgian and French refugees. This had to be done at once and the herds remaining had to be slaughtered without stopping to ask questions about the future. One does not say to a starving man, "What will I do tomorrow, if I give you this crust of bread today?"

England, therefore, undertook to supply France with 250,000 tons of meat a year, and this supply was kept up at the rate of about 20,000 tons a month until February of this year. At that time the English supply stopped. England was having then all she could do to feed her own people on reduced rations.

Thus, since February, France has had to supply from her own herds 432,000 tons of meat a year to her armies, 1,428,000 tons for the civilian populatio nand another 350,000 tons for refugees, making a total of 2,000,000 tons of meat a year demanded by France.

Herds Depleted

What are the herds she has to do this with? At the beginning of 1914 her cattle herds comprised 14,787,710 head; sheep 16,131,390 and hogs 7,035,850. By the end of 1914, after five months of war, her cattle were reduced to 12,668,243, her sheep to 14,038,361 and hogs to 5,925,291. Today her cattle herds are cut down more than twenty percent, while her sheep number no more than 10,000,000 and her hogs, 4,000,000—a loss of nearly fifty percent of her hogs and three-eighths of her sheep on top of the loss of twenty percent of her cattle.

Cattle feed is short in France and the cattle are poor and under weight. More of them have to be killed in proportion to supply the needed quantity of meat. Milk cows have been killed and the shortage of proper feed has reduced both the quantity and quality of milk. Why, I have seen the time when it has been next to impossible to get milk for my little baby in Paris. I have gone from store to store, begging some one to sell me as little as two cents' worth of milk for my baby, and frequently have not been successful.

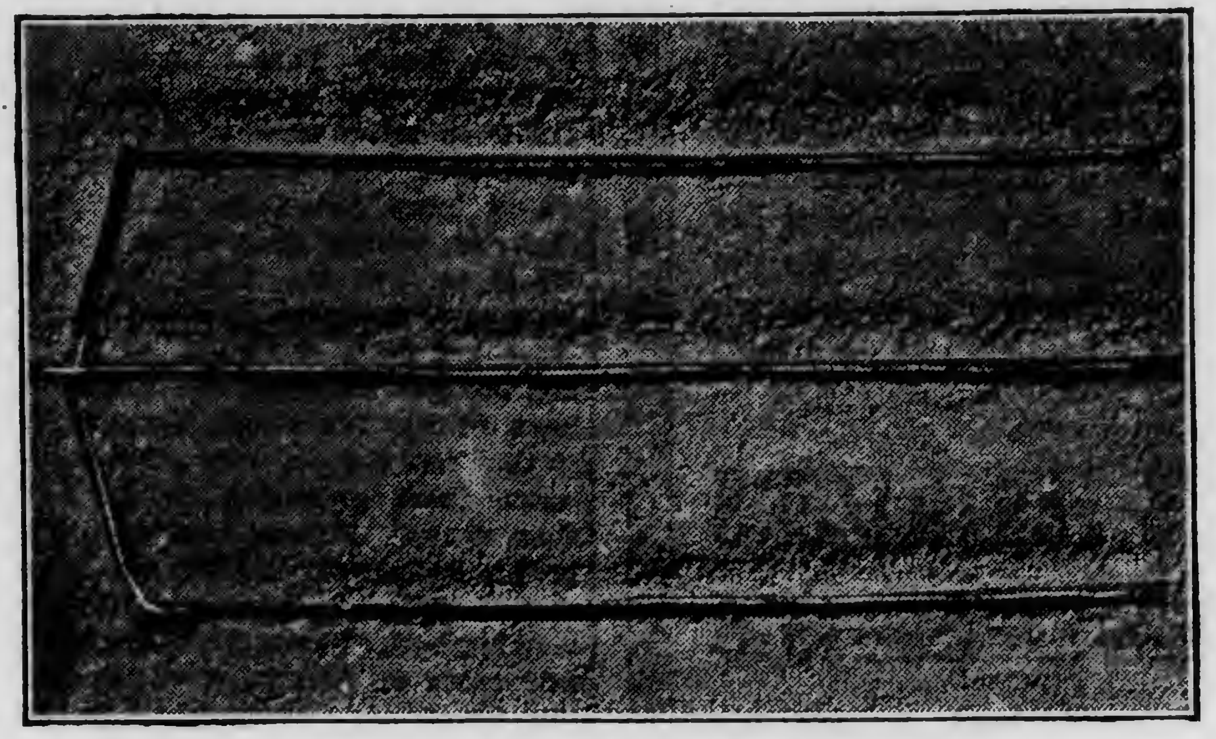


Fig. 7.—Gridiron System of Tile Drainage

The government is trying to conserve the meat supply and save the herds now, by limiting the use of meat to one meal a day. The endeavor is made to accomplish this purpose by forbidding the sale of meat after 1 P. M. and ordering the butcher shops closed at that hour, while hotels and restaurants can serve meat only with the noonday meal. But this measure has had little effect on the use of meat as it serves only against the restaurants. Housekeepers can buy all the meat they want before 1 o'clock, and they do it, as there is no restriction in the amount that can be bought. Moreover, in the restaurants one can eat all the meat one wants at midday, and thus make up for having none at night, and this, also, is the practice.

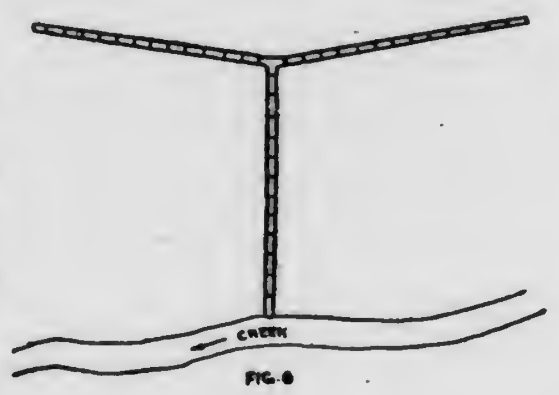


FIG. 8

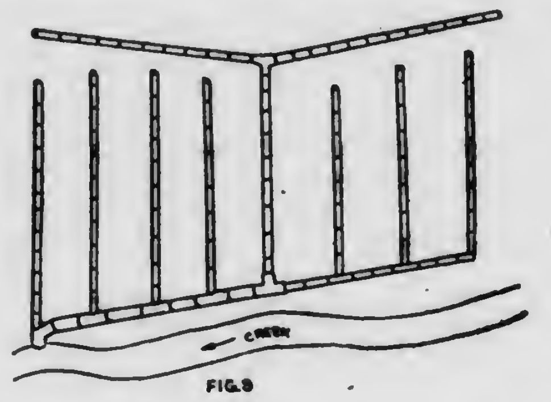


FIG. 9

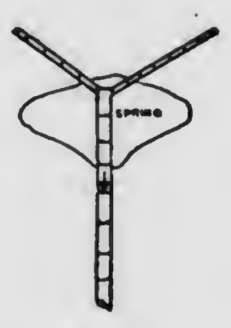


FIG. 10

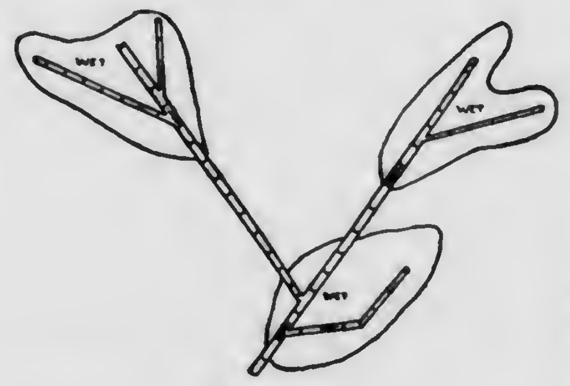
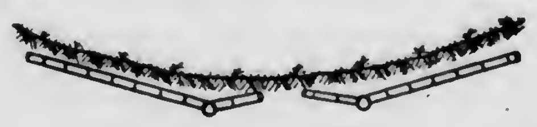


FIG. 11



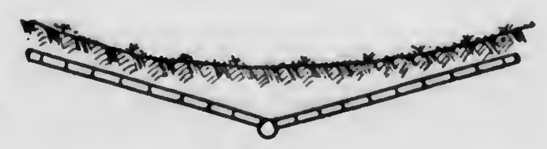


FIG. 13

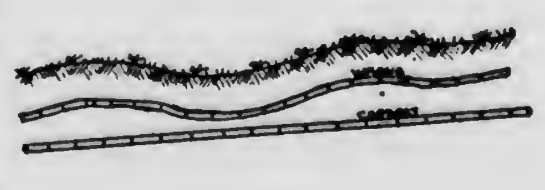


FIG. 15

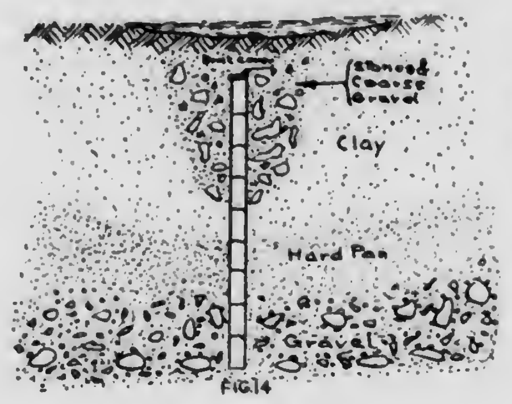


FIG. 14

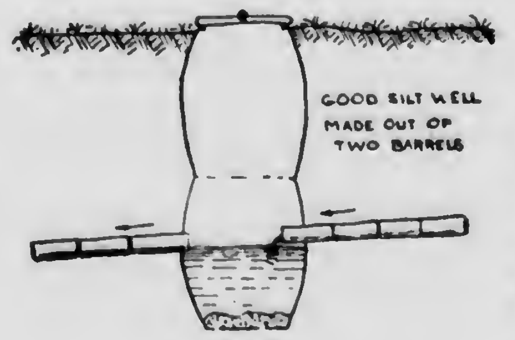


FIG. 16

There is only one real solution of the problem. France must have more meat. Her herds are disappearing rapidly. They are today far below the danger point. Soon they will have to be reconstituted entirely. Meat, meat, meat and again meat is a pressing need for France.

The Storage of Potatoes

It is of great importance that all the potatoes raised this year should be stored under proper conditions. Even when every precaution is taken the wastage of potatoes during the winter is considerable; under bad conditions of storage it is very great indeed.

In order that the best methods may be adopted by the small growers, those who have not had the experience in the storage of potatoes should know the chief causes of the wastage. These causes are:

1.—Sweating, Heating and Consequent Rot: Often due to insufficient ventilation.

2.—Rotting, due to potatoes getting wet at the time of putting them in storage.

3.—Injury from frost.

4 —Decay, owing to disease in the tubers at the time of storage.

5.—Sprouting of tubers in the spring.

It is not possible to altogether prevent losses from these causes, but by using the best methods of storage, it is possible to reduce them very materially.

This may be done by taking care to guard against losses from each of these causes:

1.—Sweating and heating occur if the freshly dug potatoes are piled in too large piles, so that the air cannot circulate between the tubers. The risk of loss from this cause is greatest in the fall, immediately after the tubers have been dug, and it is, therefore, important that potatoes dug should not be put in unnecessarily large piles, nor kept in an ill-ventilated room.

2.—Rotting from getting the potatoes wet. If the potatoes at the digging time are allowed to get wet and to go into storage in that condition, rotting is sure to occur. Be careful to have your potatoes dry befor storing.

3.—Injury from frost. Potatoes are easily damaged by frost. If they become frozen, their market value is destroyed. Therefore, take every precaution to protect the tubers from frost before and after digging.

4.—Disease. There are several diseases of the potato which destroy the tuber, and if diseased tubers are mixed with the sound ones, the disease spreads rapidly; therefore, it is necessary to sort the potatoes carefully, eliminating all of the disease, the cuts, culls, and dirt before placing them into permanent storage for the winter. All of the cuts, culls, misshapen and diseased tubers should be fed to the poultry and live stock, but should be steamed or boiled before being fed, as in this way you increase the food value and also destroy the germs of the disease, so that it will not get into the manure and thence into the land.

5.—By proper ventilation of the cellar or storage room, and by holding the temperature as near 35 degrees F. as possible, you can keep the pota from sprouting.

Selection of Seed.—Seed for next year's planting should be selected from hills that produce all nice, true to potatoes. These should be selected at the digging time, and stored separately in crates or boxes, and by storing them in a well-lighted room where the temperature can be held at 34 to 40 degrees, with a little ventilation and this seed planted next spring, the grower will make a start toward improving the quality of his potatoes.—L. D. Sweet.

Cut Down Your Labor Cost

MAKE EVERY ACRE PRODUCE A FULL CROP

Farm help is scarce. Millions of men are being taken from all kinds of work so that another season help will probably be even more difficult to secure. The farmer's only solution of this problem is to make his labor as effective as possible by giving every acre a fair chance to produce a bigger yield. An abundance of the most effective plant food is the answer. The richer the soil the more your labor can produce for it costs as much to plow, cultivate and harvest a poor crop on poor land as it does a good crop on good land.

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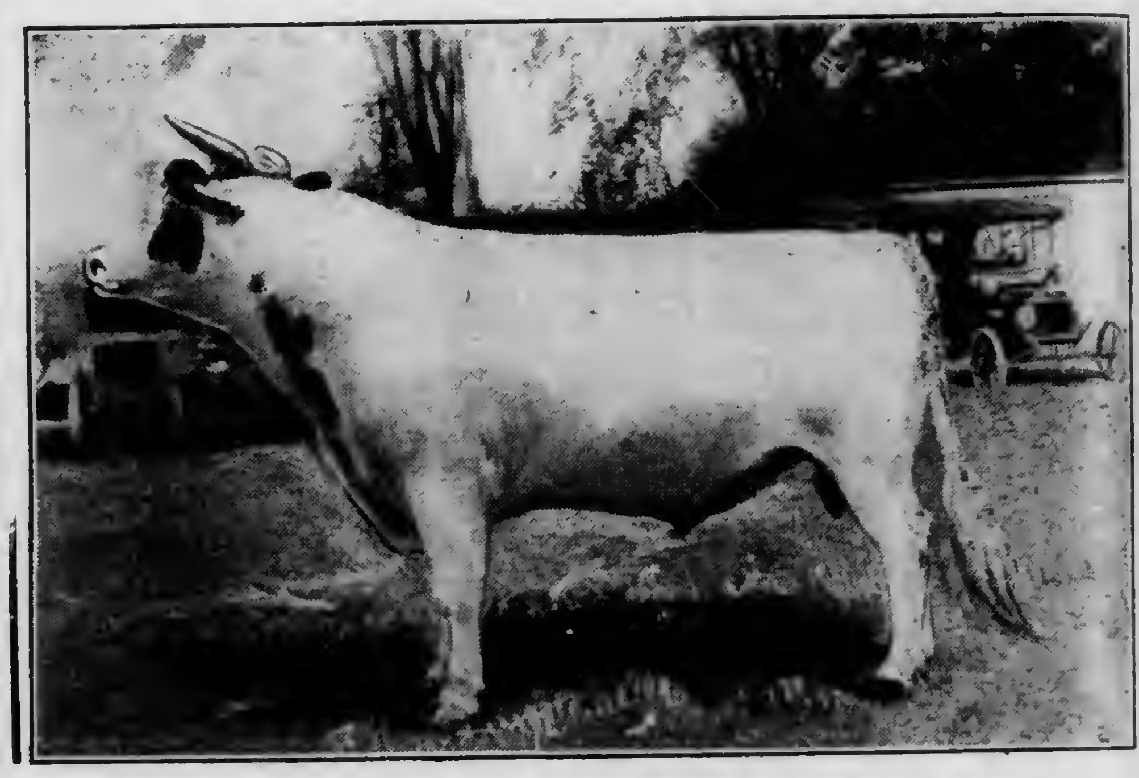
Ten Rules for Dairymen

Monroe Co. Ayrshire Breeders Point the Way

One of the livest dairy organizations in Pennsylvania is the Monroe County Ayrshire Club. Its method of conducting meetings, and especially the following set of resolutions, should be an inspiration to other similar bodies. The fall meeting of the club was held October 20th, at the Pocono Dairy Farm. Austin T. Blakeslee, who manages the farm and is an active member of the Ayrshire club, had painted a banner which hung across the main state highway, telling the visiting guests where to turn in. Every Ayrshire man in Tobyhanna Township, and there are quite a number of them, had brought his stock and turned it loose in Mr. Blakeslee's home field, so that the visitors were able to inspect these promising animals at close range. Fifteen head of purebred, registered Ayrshires were shown. This included Mr. Blakeslee's big bull, "Charmarie's Asquith", now going on four years of age and the sire of many grade calves in the neighborhood.



There is Strength and Vigor in Every Line of the Ayrshire

Mr. Blakeslee combines dairying with hogs, which make a profitable combination. Some of his Duroc Jerseys were as fine as any to be seen anywhere. A young boar, not quite one year of age, which weighs 500 pounds, excited the admiration of the club. Before entering upon the business of the club, a committee representing the Liberty Loan Bond Committee of the county delivered addresses. They presented the necessity of buying bonds most admirably and a number of subscriptions from members of the Ayrshire Club were taken.

One of the first matters of business was to present to Austin T. Blakeslee two volumes of the official Record Book of the Ayrshire Breeders' Association. One of the volumes contained the entry of Mr. Blakeslee entering the Ayrshire field. These were presented to him on behalf of the club, in appreciation of his interest and hospitality.

An address was delivered by Prof. L. C. Tomkins of the State Experiment Station. While Mr. Tompkins is a Holstein man himself and expects to enter active farming next spring, still he urged that the Ayrshire was the best adapted for Monroe County conditions and pointed out the great advantage of community breeding. Mr. Tomkins gave many practical hints on the care of cattle, and particularly dwelt upon the ne- We have a splendid summer market cessity of a winter market for milk. among the hotels and boarding houses of the county and if a market could be secured in winter for approximately the same price for milk, there would be no doubt of the average farmer making a success of milk production.

The plan most favored by Tobyhanna farmers is to skim the milk, keep the warm skimmilk to feed to hogs and calves and ship the cream. It is likely that some such plan will be carried out in the near future. Mr. Tomkins has always taken a deep interest in Monroe County and expects to come back again in a little while to make a further study of marketing conditions. County Agent Roy. M. Decker delivered one of his sensible talks and then the following resolutions were adopted as the platform of the club and every member was urged to carry them out and help his neighbor do the same.

Ten Rules for Ayrshire Breeders

1.—Boost Better Dairying.—Monroe County can't grow wheat probably, nor corn, in competition with the fertile west, but cows and calves grazing on its hills and meadows can pull gold from the soil. We have the market, no farmers are better situated. The market cannot be oversold. The demand increases faster than the cows. Get busy!

2.—Keep Your Cattle Clean.—Keep your cattle so that they will be a credit to you and to the breed. This means that they will be free from lice, free from manure and manure stains. Look out for tuberculosis and abortion. Ayrshires are particularly healthy, but that is no reason you should neglect them.

3.—Pile in the Feed.—Feed just a little better than you think you can afford. Feed is high but so are milk and butter. No cow can make milk out of air, or stones, or weed stalks —not even Ayrshires.

4.—Build a Silo.—If you keep at least four cows, put up a silo. If you haven't the money, any Monroe County bank will loan money for this purpose. A silo will pay for itself in two years in increased production.

5.—Give Good Shelter.—Keep your cows warm and dry with as light and well ventilated stable as you can afford. What's the use of trying to heat all outdoors with the feed you are putting in the cow?

6.—Breed at Two Years. — Have your cows come fresh when they are not less than two years and nine months old. This will make big-

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trapping cows that will far more han make up in increased producon the little time lost by not breedg sooner.

7.—Find a Paying Market.—Talk p Ayrshire milk as just right for rinking purposes; the very best for heese and ice cream, and find the est market. If you can't make money ith Ayrshires, you can't make it ith any breed. They have been alled the "poor man's cow".

8.—Put Out The Bulls.—Save evry promising purebred bull calf and rade it for a scrub with some neighor. Every good bull in the neighorhood increases the interest in airying, makes a market for stock, oes your neighbor a good turn and elps the county.

9.—Save The Heifer Calves.—Save very heifer calf, half-breeds and all. his country is facing a shortage of eef and milk. Cattle prices are ound to be high and higher. It akes nerve in these days of high rices of feed, but it will pay. Sure!

10.—Boost The Breed.—Boost the reed—at "Rural Life" days, "Township Fairs," the "County Fairs", henever and wherever possible. oost the breed and better dairying nd more profits—but don't knock ther breeds.

Napol Sir Keystone Beauty 132351, Grand Champion Holstein Bull at Trenton Fair, 1917. Owned by Geo. E. Stevenson

Arrangements were made to trade urebred Ayrshire bull calves for rub bulls. Any farmer in the couny having a scrub bull and wanting improve his herd should communiate with any of the following officers f the club: Robert C. Price, pres., resco, Pa.; Henry Hester, sec., Bosardsville, Pa.; William J. Moore, .D. 5, Stroudsburg, Pa.; Harry W. rummell, Canadensis, Pa.; Roger T. resge, Gilberts, Pa.

Already there are twice as many yrshires in Monroe County as all ther registered cattle of other dairy reeds put together. Truly a remarkble record and one speaking well r the progressiveness of our farms. The movement to further betr dairying in Tobyhanna has reived the support of Superintendent illiam Bell, of Pocono Lake Prerve, who is anxious to secure a good pply of Ayrshire milk for that rowing settlement.

It was agreed to hold the annual eeting of the Club in Stroudsburg me time in February, the Execuve Committee being authorized to rrange the exact date. Representaves from the club were present from l over the county. Fifty members d guests sat down to lunch. Four ew members were elected to the club. Its membership now stands at forty-eight, making it one of the most live and influential ones of its kind in the county. Every owner of an Ayrshire in the county was invited to join the club.

COMMUNITY BUYING OF DAIRY FEEDS

(Continued from page 3.)

in business here, and just north of you is another town where men are doing business also. Both towns are developing the county, both are paying taxes, local, county and state. Why do you buy your goods in distant cities? Why don't you buy your goods in the next town and give the dealers there the benefit of your trade? We know that you cannot expect to buy goods at retail and sell them at a profit in competition with other dealers. But we are business men also. We are manufacturers of dairy products, milk and butter and cream. Our cows are our machines. The feed we buy is part of our raw material. Our finished product must be sold at wholesale. What kind of business men would we dairymen be if we continued to purchase our raw material for the manufacture of milk and cream at retail prices and then be content to sell our finished product at wholesale?

"We are going to buy our feed not to injure you, for we would help you at anytime if we could in justice to ourselves. But we going to buy it because we owe it to ourselves and our families to make a success of our business. Many of you dealers have not bought your feed in car lots; there is too much competition here for that and the trade is not heavy enough. The next time we bring in a car of feed you may have a part of it."

This settled the matter, and in practically every car bought since then, the three dealers who handle feed in our little town have had an order. I am sure that our way is best for us. It is best for the dealer, too, for every car we bring in advertises the feed business, and those who could not get in their orders in time go to the dealer, who, having bought his feed cheaper, can give them better service.

The Local Agent

Now a word about the man who must handle this feed. First, he must be absolutely honest with his neighbors. If he is pretending to

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Bone Meal, which builds up a big strong frame.

Soluble Blood Flour, a strong protein feed and one of the best known bowel correctives—prevents scours.

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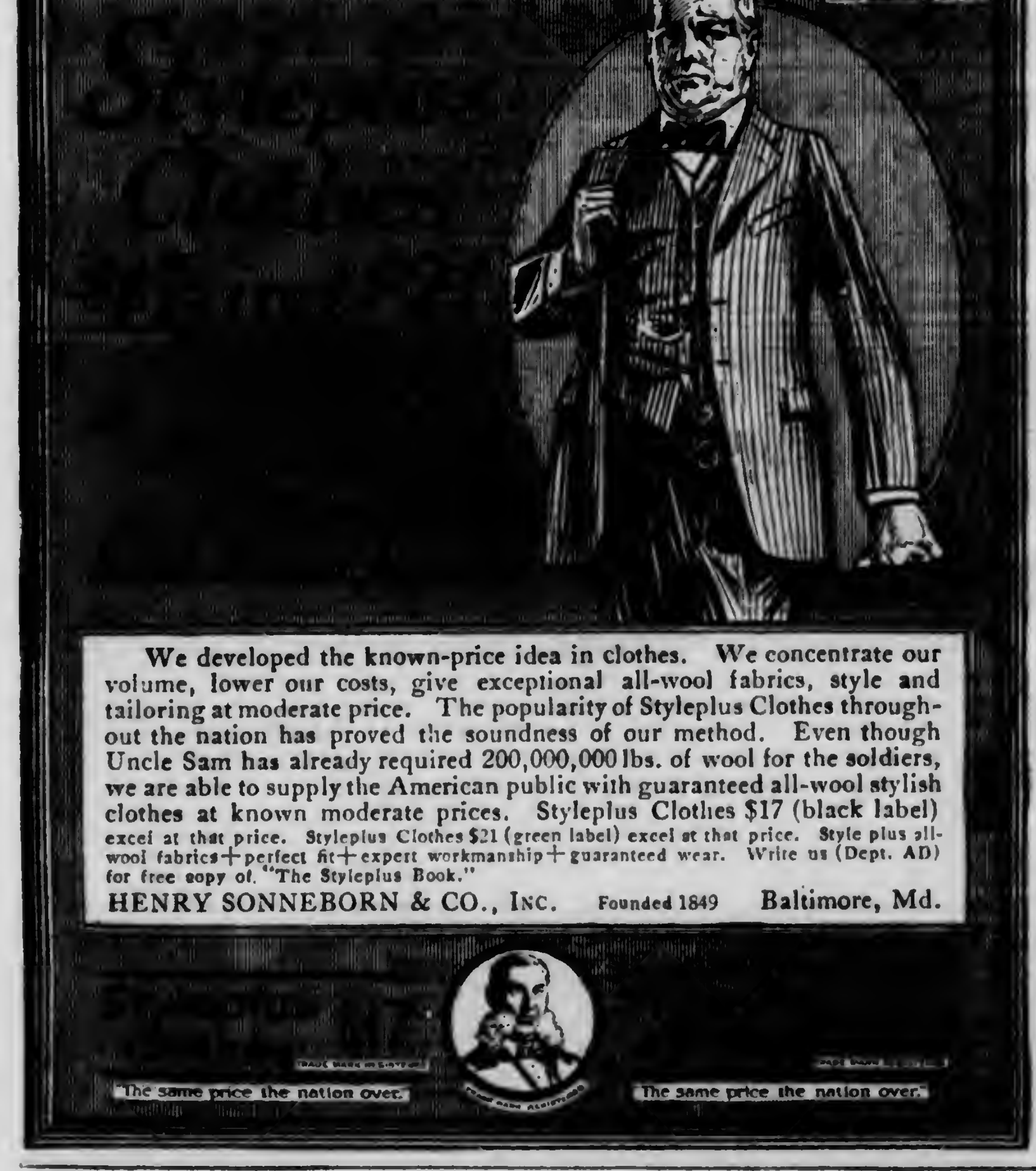

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handle feed for fifty cents per ton, he must do it. If he is a good business man, it will often happen that he can buy below the general market. There may be a sudden and a temporary decline in the price of feeds, and his company will hasten to give him the benefit. Last week I ordered a car of middlings at a certain price. When my order was received, it happened that this grade of middlings was off fifty cents a ton. My company hastened to book the order at the lower price.

Now suppose that instead of giving my neighbors the benefit of the drop, I should have put a dollar a ton in my pocket instead of fifty cents. It might be that no one would know it this time, for the price is understood to be according to the order. But I should know it, and the fact that I did would limit my ability to do this work. And as sure as fate some day I would do something like that which would be discovered. Then where would our co-operative efforts be? The man who handles feed must be absolutely fair at all times. He must know the market. He must buy in localities where freights will not increase the ultimate cost. He must know when to buy. He must know all that is knowable about the time when feeds are likely to be cheapest.

He must also know all he can about feeds and their relation to dairy production. The average farmer has not given much study to these matters. He is learning rapidly, however, and this fact is helping very much. But our farmer dealers must know more than the average dairymen about feeds. He must know far more than the man in town who has handled feeds just as he has handled fertilizers—according to the name printed on the sack. All of these requirements are easily within the reach of a number of men in nearly every good rural community, and it ought to be easy to organize and secure the benefit possible under such conditions.

There is more to be realized in this practice than simply the money saved. A new feeling of confidence comes to any community when neighbors are able to do things for themselves. Such activities open the way for larger possibilities of development in the rural community, and other things are sure to follow which help even more.

If we have faith enough in our business as dairymen to put our best thought into it; if we grow all the feed we can, and co-operate with our neighbors in buying other feeds so that we may obtain these feeds at the lowest possible price, we shall have financial success. We can keep our farms up to the highest point of production. We may keep our credit as good as our soil. And we may gain that which comes to any man who has had his trial of physical, intellectual and moral strength and "has not been found wanting".

The National Dairy Show

The Greatest of All Agricultural Shows

There is generally one, and only one, best, for nothing can be better than the best. There have been many great agricultural expositions in this and other countries. Probably the greatest expositions in all history have been held between our two sea coasts. The National Dairy Show, altho built about one primary idea, is necessarily broad in its scope; gradually, year after year, it has grown in size and improved in quality until the superlative, which was reached at the last annual session at Columbus, O., Oct. 18 to 27, presented the greatest collection of high class dairy animals, and greatest aggregation of equine excellence and the most marvellous show of dairy equipment and supplies that this or any other country has ever seen.

Even to one who has kept pretty well in step with the dairy progress of the past generation, to walk thru the aisles of the several great exhibition halls was to marvel. Whereas the entire outfit of the dairy equipment of the average farm used to be a small herd of cows, sufficient crocks to contain the milk until it was skimmed, a cream jar, a dash churn, a wooden bowl and a paddle, we failed to see any one of these items at this show, except the first mentioned and fundamentally important cow, which will always be the base of the dairy pyramid.

But science and the practical utilization of its discoveries have worked a great change even in the cow. She must now make good at the pail or go to the shambles. In order to help the cow to make good all of this wonderful collection of dairy equipment has been perfected. Now, in order to warrant a dairyman in purchasing such equipment it is necessary to cull out all cows that are devouring valuable feed and not giving enough milk and butterfat to more than pay the cost of their keep. If it pays to install modern dairy machinery, it will pay much better to improve the herd in the same proportion.

Machinery

In the exhibits that came from all of the leading manufacturers could be seen everything from properly planned barns and devices for handling feed and manure to the most massive and capacious machinery for boiling milk and for making butter and ice cream, the necessary power plants for operating them and the most modern methods of refrigeration. As contrasted with the old original method of milking by hand were to be seen the many makes of mechanical milkers, which are both efficient and sanitary. One enthusiastic dairyman declared them the greatest invention in the history of the world. Then the time honored milk crock and cream ladle were displaced by the several makes and types of centrifugal cream separators. When one begins to delve into the various equipment used in making butter and ice cream in a large way it almost makes him dizzy. It is like comparing the great department store of today with the cross roads store of a generation ago.

Increased dairy production is so dependent on the quality of fuel that is to be fed into the firebox of the cow that it is quite natural to find at such a show various exhibits not strictly of a dairy nature. Thus we find leading fertilizer companies setting forth their methods of increasing production; demonstrations of the utility of liming the soil and exhibitions of machines for doing the work to the best advantage; demonstrations of the advisability—yes the necessity—of growing corn that will mature in season to be hardened before caught by the frost; exhibits of improved feeds from various sources, and of improved methods of preparing farm raised feeds so as to increase their digestibility and palatability, and so as to make easier the handling of the manure back to the land to make more and better crops; tractors to furnish power for plowing, operating ensilage cutters, etc., and other machinery and devices.

Educational

No one could walk thru this show, even with his eyes shut, and not absorb some new facts. The careful observer had ample opportunity to learn, by seeing, many things which would have been impossible to study out from a written description. However, there were several exhibits of rather fundamental importance to farming, especially dairy farming, prepared and installed by educational institutions which had nothing to sell. These deserve more comment than we have room to give, so we will just present some of the high spots.

Corn Grades.—The exhibit staged by the Ohio State University was both attractive and instructive. One section was labeled "Produce corn instead of water". It gave the standards for shelled corn in grades ranging from No. 1 to No. 6.

	Percent Moisture	Percent Foreign Matter	Percent Heated & Mahogany Kernels
No. 1.	14.0	2	None
No. 2.	15.5	3	None
No. 3.	17.7	4	None
No. 4.	19.5	5	0.5
No. 5.	21.5	6	1.0
No. 6.	23.5	7	3.0

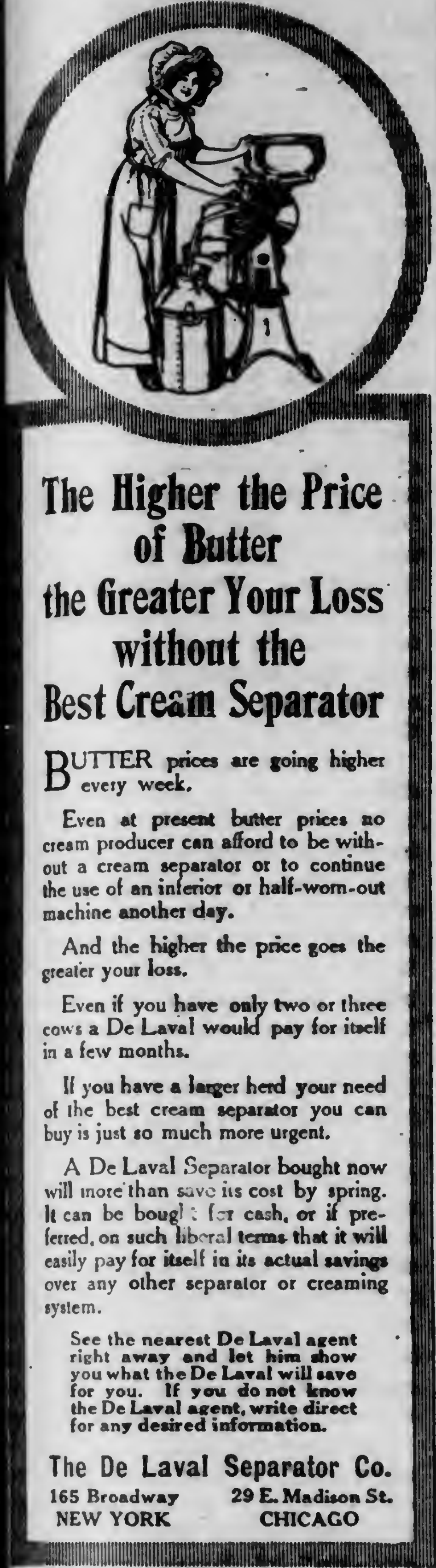
Numbers 1, 2 and 3 must not have more than 2, 4 and 6 percent damaged, respectively; while Nos. 4, 5 and 6 may carry 8, 10 and 15 percent damaged. No. 2 was specified as well adapted varieties, planted in good season, well supplied with plant food, well matured at husking time, not exposed after husking, and well stored. It can be shipped any distance as it carries no excess moisture. At present it is worth 25 cents more per bushel than No. 6.

No. 6 was specified as big, late maturing varieties, planted late, not manured or fertilized, immature at husking time, left on ground after husking, stored in pens exposed to weather; spoils easily on shipment.

Poultry Feeding.—There was a fine demonstration of crate feeding for poultry, proclaiming that "a milk-fed fowl is like a corn-fed steer—tender and juicy". Dressed samples showed the difference between the ordinary farm-fed fryers, roasters and fowls and the same types milk-fed. The latter were better fleshed and certainly more attractive to the buyer. The ration used was: Corn meal, 40 lbs; wheat middlings, 40 lbs; finely ground meat scrap, 5 lbs; enough sour milk or buttermilk to make a thin batter. A sign said: "One of the most valuable foods for young chicks is sour milk. It will do more to prevent white diarrhea than any amount of drugs."

Pig Feeding.—There was a striking demonstration of the value of milk in pig feeding. A pair was shown fed on corn, salvage wheat, middlings, and tankage for 75 days. The average daily gain was 1.37 lbs., at a cost of 10 cents per pound. Another pair fed for 95 days on corn, oats, middlings, oilmeal and skimmilk gained 1.7 lbs. per day at a cost of stance the difference in favor of the milk-fed pigs was .33 lb. per day of gain and 2.38 cents per cost per pound.

(Concluded next week.)



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BUTTER prices are going higher every week.

Even at present butter prices no cream producer can afford to be without a cream separator or to continue the use of an inferior or half-worn-out machine another day.

And the higher the price goes the greater your loss.

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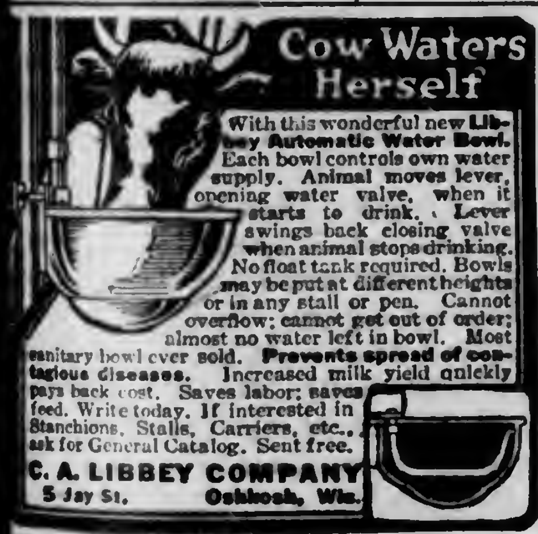
See the nearest De Laval agent right away and let him show you what the De Laval will save for you. If you do not know the De Laval agent, write direct for any desired information.

The De Laval Separator Co.
165 Broadway NEW YORK
29 E. Madison St. CHICAGO



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With this wonderful new Libbey Automatic Water Bowl. Each bowl controls own water supply. Animal moves lever, opening water valve, when it starts to drink. Lever swings back closing valve when animal stops drinking. No float tank required. Bowls may be put at different heights or in any stall or pen. Cannot overflow; cannot get out of order; almost no water left in bowl. Most sanitary bowl ever sold. Prevents spread of contagious diseases. Increased milk yield quickly pays back cost. Saves labor; saves feed. Write today. If interested in Stanchions, Stalls, Carriers, etc., ask for General Catalog. Sent free.

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H A Y

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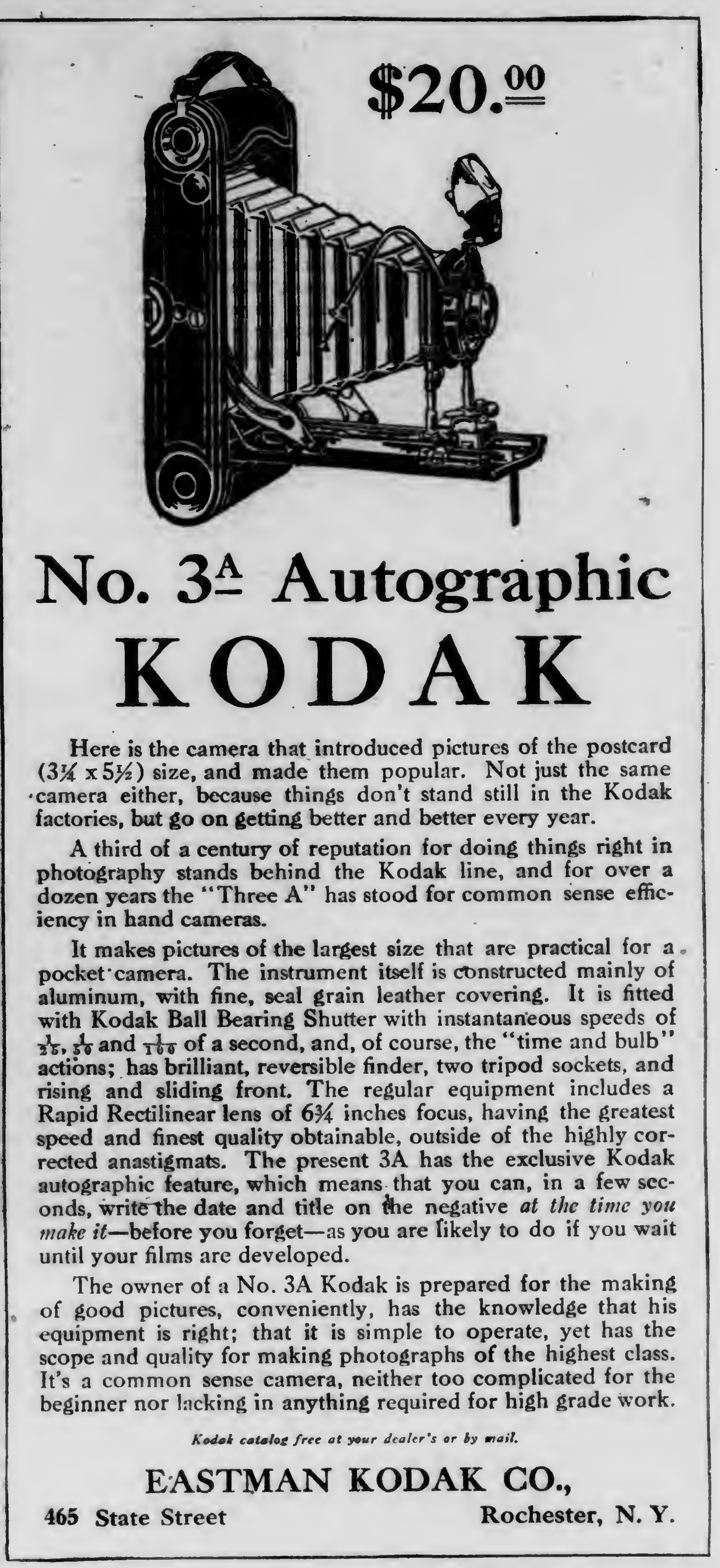

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No. $3^{\underline{A}}$ Autographic KODAK

Here is the camera that introduced pictures of the postcard ($3\frac{1}{4} \times 5\frac{1}{2}$) size, and made them popular. Not just the same camera either, because things don't stand still in the Kodak factories, but go on getting better and better every year.

A third of a century of reputation for doing things right in photography stands behind the Kodak line, and for over a dozen years the "Three A" has stood for common sense efficiency in hand cameras.

It makes pictures of the largest size that are practical for a pocket camera. The instrument itself is constructed mainly of aluminum, with fine, seal grain leather covering. It is fitted with Kodak Ball Bearing Shutter with instantaneous speeds of $\frac{1}{25}$, $\frac{1}{50}$ and $\frac{1}{100}$ of a second, and, of course, the "time and bulb" actions; has brilliant, reversible finder, two tripod sockets, and rising and sliding front. The regular equipment includes a Rapid Rectilinear lens of 6¾ inches focus, having the greatest speed and finest quality obtainable, outside of the highly corrected anastigmats. The present 3A has the exclusive Kodak autographic feature, which means that you can, in a few seconds, write the date and title on the negative *at the time you make it*—before you forget—as you are likely to do if you wait until your films are developed.

The owner of a No. 3A Kodak is prepared for the making of good pictures, conveniently, has the knowledge that his equipment is right; that it is simple to operate, yet has the scope and quality for making photographs of the highest class. It's a common sense camera, neither too complicated for the beginner nor lacking in anything required for high grade work.

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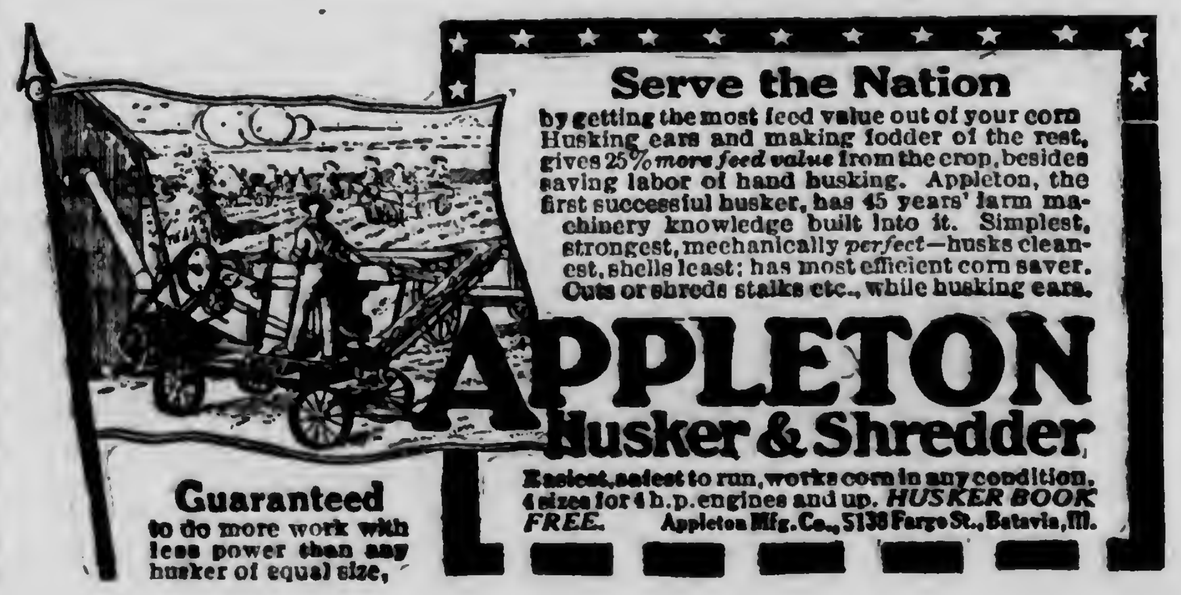

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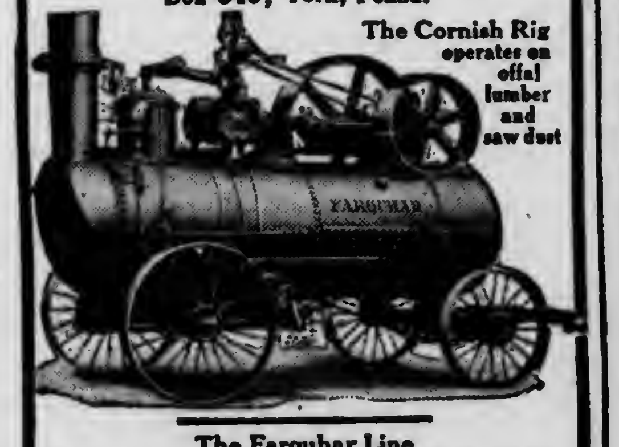
APPLETON Husker & Shredder

Easiest, safest to run, works corn in any condition. 4 sizes for 4 h.p. engines and up. *HUSKER BOOK FREE.* Appleton Mfg. Co., 513 Fargo St., Batavia, Ill.

Guaranteed to do more work with less power than any husker of equal size,



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Ship your DRESSED POULTRY and EGGS to ARTHUR H. BONSOR, Reading Terminal Market, Philadelphia, Penna.

Poultry

THE FARMER'S POULTRY OUTLOOK

Some of the farmers I know are already cutting down their poultry flock because of the high price of grain, when never before—and perhaps never again—is the prospect brighter for a heavy profit on eggs as now and from now on for months.

One cannot blame the people who are simply in the poultry business and must buy all of their feed, or the village back yard poultry keeper as, in these cases, in the face of present poultry feed prices the profits thru winter now do not promise much, and one cannot blame them for condensing the flock to small proportion in number over that of former years, but there is little excuse f - the farmer following pattern; for the farmer has so many ways of using up waste grain, supplying green stuff, and changing high-priced grain for cheaper chick food products, to think for one minute of selling his poultry flock short, as so many contemplate doing.

I have been around to several of the county fairs this fall. I find the poultry output at these not up to past shows in number, and many of the smaller exhibitors from the village and town back yards scarcely in evidence. "Nothing in it now. Going clear out of the business", I hear frequently in these last cases.

If, to save his corn and wheat now soaring high, he puts his wits to find cheaper stuff to keep her crop filled this winter he will shortly find that this variety of food will be the best thing in this line that could have happened to both, for she will do better and live healthier on a variety, consisting of green stuff, clover heads, boiled potato parings, cabbage leaves, bread scraps, and every bit of meat leavings and boilings, cracklings and skimmilk.

All this will save high-priced grain, and so will green rye. I say rye, altho there is other grain that will stay green in winter, but I have never found any the equal of rye for green food stuff in winter. We usually sow the rye in September, but I have put it off until October and got good stands of young rye in winter.

Next, after concluding to keep over a good-sized flock, is to select birds of the right age if you want a profitable winter flock, and that is why every farm flock should be marked. I have long been surprised over the number of farm women who do not own one band for poultry and never did. I consider these cheap little appliances, advertised on most poultry pages or easy to get at any poultry supply house, indispensable for any worth-while flock of chickens and turkeys.

In selecting the paying flock to keep over I would not think of keeping this year pullets alone, for on the farm and on range these seldom begin laying early, or stay laying regularly, but there is one age you can be sure will repay you in laying if you have a well-bred flock of layers, and these are the eighteen-month-old hens. I have always banded my chickens in a way that I cannot possibly mistake any of the eighteen- and twenty-month-old hens, or last year pullets.

It is the farmer who, by producing many eggs for market from now on will, while making a profit over anything he has known of old, surely by doing his best he can keep the price from going so high to the city consumer. Make a study of economy, not in the needed amount of feed, but in the kind of feeds to give the fowls this winter.—Ida M. Shepler, Indiana.

Swarming Controlled—A Good Crop of Honey

MAKING THE BEES SNUG FOR WINTER

The good bee keeper devotes just as much attention to his apiary in the closing days of the season as in the Spring; he understands the importance of putting the bees into winter quarters so strong and so well stocked with stores that they will be ready for active work as soon as warm weather comes again.

The first colonies to perish in a severe winter are naturally those that are weak, for even while they may have sufficient stores they are not able to generate enough heat to keep the hive warm. It is a matter of prudence, therefore, to unite all the weak colonies in the fall. The simplest way to unite two colonies of bees is to place one hive over the other with a thickness of newspaper between them. By the time the bees have gnawed thru the paper they will be ready to live together in peace and unity.

No colony is ready for winter unless it has sufficient stores to last it until spring. That means at least 25 pounds of honey if the bees a to be wintered out of doors. It i well to remember, tho, that weigh cannot always be depended on, fo old frames are certain to be heavie than those which have been used onl a season or two, as more wax wi have stuck on to them by the bees. There should be at least six frame of honey in a ten-frame hive, and i is not safe to use any smaller hive for outdoor wintering. And it is best to have all this honey in the center of the hive, where the bees naturally cluster. In very cold weather th bees do not move about much, but gather in a great cluster, each with its head under the body of the bee i front of it, and the honey is passe from one to another until it reache the last bee. The bees seem to hav a surprising sense of fairness, too, for when the weather gets a little warm they readjust themselves, those on the outside getting a place nearer the source of supply.

In case the amount of stores fall short, what then? It is a poor b keeper who allows his bees to perish for lack of stores when he is able t buy sugar. Now the feeding of sugar syrup is not something to b adopted if it can properly be avoided. Sometimes bee keepers extract th honey from several frames in th brood chamber and then feed syrup t replace it, but this is not a good practice. Honey is usually the best fee for bees, and yet if the honey is mad from honey dew or from overrip fruit or if the honey has not bee capped, it is distinctly undesirable a winter ration. Such honey is b removed and saved for summer feeding, for it will do no harm when th bees are active, if it is fit to fe at all. Cases have been known whe apple juice stored by the bees h actually turned to cider in the cell

Moreover, since foul brood has be come more or less common in thi country, many bee experts consid it unwise to feed back at this seaso any kind of honey, good or ba which may have been previously r moved. As a rule, the best plan to let the bees keep all the capp honey they have in the frames an to feed sugar in some form to ma up any lack. Sugar syrup is made b mixing equal parts by measure granulated sugar and water, stirrin until dissolved. The sugar will di solve a little quicker if boiling wat is used, but it will be a mistake set the sugar on the stove, for might be scorched and burned sug is reputed to be fatal to bees in c weather. Many different feeders a on the market, but a tin plate fro the ten-cent store set on top of th frames works very well. A little e celsior in the plate will give the b a foothold when taking up the syru and an empty super on the hive w give plenty of room for the feede Of course it is advisable to give th feed before the weather gets too c for the bees to store and seal it.

Outdoor wintering is to be reco mended for the bee keeper with limited number of hives, which me the average farmer and fruit grow In almost all sections the bees be carried thru the winter safely properly protected. As I have sa ten-frame hives are best, and it is very good plan to substitute ch dummies for the two outside fram confining the bees to eight frames keeping them away from the wa Then the hives may be wrapped building paper tied in place w heavy cord, or a light board fr may be erected around the sides at the back and filled with leaves more expensive plan calls for a s

open at the front, in which the hives are set and then packed around with hay or straw. This method is followed by some market gardeners who have learned how to handle their bees without loss.

Whatever may be done in this way, however, the most important matter is a proper top covering. Bees have often gone thru a hard winter in a single wall hive with no outer covering when they have been well protected on top. The best plan is to put on an empty super and to fill this with a burlap bag filled with cork chips, leaves or hay, taking care that there are no open corners. Sometimes a honey board is placed under the super, but that is a great mistake, for one important purpose of this top covering is to absorb the moisture arising from the bees. If there is no escape for this moisture the hive will be rendered damp, the worst possible condition. Of course an opening in the honey board remedies this difficulty.

It is well to set the hives where they will be sheltered from cold north winds, and if no natural protection like a building or a wall is available, a few boards may be set up to form a windbreak. Bees can endure a great amount of cold if the cluster is large and they are kept dry, but the colder the hive gets the more stores they will consume. When they begin to feel the cold, the insects become very active, driving their wings at tremendous speed, thus warming themselves by muscular effort and also creating a current of warm air in the hive. The colder the atmosphere the more energentically they keep up this fanning, and of course the harder they work the more they eat. Obviously, it is economy to make the bees as warm as possible, in order that they may remain as near dormant as possible. Moreover, there will be less excreta to expel when the bees eat but lightly, a matter of some importance.—E. I. Farmington, Mass.

FEEDING POINTERS

The high price of all poultry foods will induce many farmers to feed new corn heavily as soon as it is shucked. The feeding of new corn in any considerable quantity is a dangerous practice. Indigestion is sure to result.

The only safe method of feeding new corn to hens is to place the corn in an oven and heat it until it browns or chars on the outside. This heating drives off the excess moisture that causes the digestive disturbances. Corn so treated is best fed on the ear, and while still warm. The hens experience little difficulty in picking the grains from the cob, and get needed exercise. The charred and browned portions of the corn answer the purposes of charcoal and promote the general health.

In my experience the best way to feed old corn is to crack it and feed it in deep litter. Cracking corn does not increase its food value. Nor does it assist the digestive processes of the hen to any great extent. The value of cracked corn lies in the fact that it increases the efforts of the hens in searching for the smaller particles in the litter. Hens must be made to exercise if they are to lay well and keep in a good state of health.

The cheapest poultry food that can be purchased today is beef-scrap. Many will not agree with me when they find that first-grade beef-scrap sells around four dollars and fifty cents a hundred pounds.

The essential element of foods needed in the formation of eggs is protein. It is impossible to supply enough of this element in feeding ordinary grains alone. For instance, corn contains but nine percent of protein. Wheat and oats contain a slightly greater protein content. An exclusive diet of corn, wheat and oats will give the hen an excess of fat-forming elements and a deficiency of egg-making material. Beef-scrap contains fifty-five or sixty percent of protein, and its actual food value, insofar as the production of eggs is concerned, is four or five times greater than the food value of the grains grown on the farm.

When beef-scrap is used in the ration it does not matter a great deal as to the choice of grains. The ordinary grains do not differ a great deal in food value. Bran and middlings are relatively cheap, and are worth as much for poultry food as whole wheat. These should form a large portion of the ration. The cheapest poultry ration that I can feed (and this ration, by the way, has brought a good egg-yield) is the following: Two parts bran, one part middlings and one part beef-scrap. This mash is kept before the hens all the time in hoppers. Cracked corn is fed in deep litter as the first feed of the day, and at evening just before roosting time, the hens are given al the corn they will eat.—T. Z. Richey.

POULTRY THOUGHTS

Limestone poultry grit does not accomplish the purpose of grit because the particles grind into round balls and thus fail to perform their work. Many persons have adopted limestone grit because of the claims of the makers that it furnished shell material as well as being a grit. However, in practice it does not serve this two-fold purpose. The best way is to feed crushed oystershells for shell material and a rough grit that never grinds round no matter how small it becomes.

Those who wish to trap nest their flock without the necessity of visiting the hen house every hour to release the hens can accomplish it in the following way. Have two pens with the nests set in the partition between them, using the regular trap nest doors at the front, but no back to the nest so the hens can go out into the other pen when thru laying. With this method the hen, when she has laid, cannot come back into the main pen with the flock but must remain in the second pen. At feeding time a record can be taken of the layers and then allow them to go back to the main pen.

Breakage is far more common in small crates of eggs—three to six dozen—than in standard crates of thirty dozen. This is partly due to the crate being small and easily thrown about, but in many cases it is due to lack of proper packing. To avoid this trouble an excelsior mat should be placed both in the bottom of the crate and on top of the layer before the lid is put on. It is also a good plan to use fillers with corrugated sides so as to minimize the danger of breakage in the outside rows. This type of filler is much used by long distance shippers of standard crates, especially when shipments are made by freight. Such packing protects the eggs from all rough jolts.

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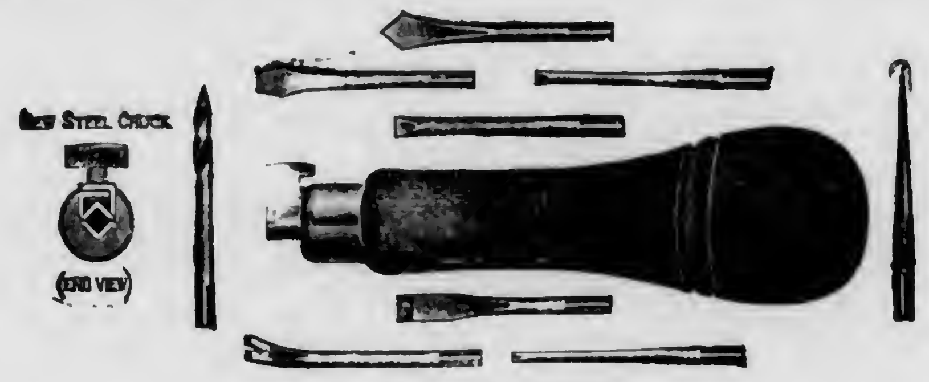

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PHILADELPHIA, PA., NOVEMBER 3, 1917.

Conscript Labor

We want to call attention to the article on page 27 of this issue on Farm Labor and the Draft. Mr. Huey points out one of the greatest dangers in the present labor situation in the case of those who will work only enough days to supply them with the actual needs of living. Slacker is an ugly name these days, but if there is a class that fully merits that name it is the class that is taking advantage of present wages and present labor demands to kill time. There are many objections to conscripting labor. There are dangers of serious abuse of conscripted labor. But if any condition will bring about the drafting of men for work, and putting them into work under penalty of fine or imprisonment, it is just the kind of slacking that is already showing itself in city as well as country sections.

* * *

Uncut Corn

What shall I do with my uncut, frozen corn fodder? This is a question many farmers are asking. Will it pay at this late date, with the scarcity of labor and the need for beginning to husk as soon as possible, to bother cutting it? As far as the feeding value of the fodder is concerned it is almost nil. After fodder is frozen and subjected to rains, corn stover carries very little feeding value. Except where it is needed for bedding or litter—a purpose for which shredded corn fodder is valuable—it might better be left standing and be husked from the stalk. The stalks would then be returned to the soil and provide considerable humus and some fertility.

Where this practice is followed, it is customary to break the stalks down by dragging some long, heavy implement such as a railroad iron or plank drag, or even by rolling, when the stalks are frozen. Then by disking thoroly before plowing, they can be turned under with little trouble. We believe it would be economy to manage the still standing corn in this way where the stalks can be spared from the barn rather than defer husking too long, and because the cost of cutting is a serious matter this fall.

* * *

Farm Loan Bank Progress

The twelve Farm Loan Banks of the United States have received applications for almost $24,000,000, of which nearly $20,000,000 has been approved. So far, only $3,730,123 has been paid out, but $7,716,133 in loans has been closed and from this on the work of paying out will go much faster.

Delay was caused by organization, and the applications had piled up because farmers' organizations had been formed promptly and many loans asked for before the farm loan commission was ready to take care of them. About 4,000 associations have been formed, or are in process of formation, of which more than 1,100 have been chartered. These associations have applied for more than $50,000,000, and if those not yet in working order apply in like proportion it will require more than $200,000,000 to meet the demands.

As we have previously pointed out, it is necessary first to form a local association of borrowers and prospective borrowers. Information concerning this may be obtained by addressing the Farm Loan Board at Baltimore, Md. While the present law does not, in our opinion, meet all the needs of farmers and would-be farmers, yet it is in the right direction and experience will no doubt indicate to Congress the needed amendments. Long-time loans at a reasonable rate of interest will do more to aid the development of agriculture than will any amount of theoretical teaching, and they who are standing in the way of its extension in their neighborhoods are standing in their own light, regardless of their willing activity in other lines of intended help.

* * *

The New Draft Plan

There was considerable criticism from many quarters concerning the so-called selective draft service act. The principle by which the first 600,000 men were called was more like a lottery than like a selection. The intent of the act was to call those most fit and who could best be spared from other work and obligations. The only element of selection in the first draft was the sifting out, by the district exemption boards, of those who applied for exemption.

Under the new plan, details of which are printed on page 27, all those not yet called will be classified into five classes according to occupation, and family and civil obligations. Those who can best be spared will be placed in class one and called first, and so on down thru the classes and sub-classes, so as to cause the minimum disturbance to necessary industries and the family relationship.

It will be noticed that skilled farm labor is placed third and fourth in class two. This means that all those placed in classes ahead of skilled farm labor will be called first. Under no circumstances is the new scheme to be retroactive; that is, those already called and accepted will not be affected by the new plan.

It may be that some will think that skilled agricultural labor is still pretty well up on the list; that the liability of the farm laborer to be drawn is still too great. But when it is considered that such laborer, when he has other dependents upon him, is taken care of in a lower classification, and that associate managers and heads of necessary agricultural enterprises, which probably includes farm owners, are placed in the last division of classes three and four, it seems that agriculture is pretty well safe-guarded. It would hardly be fair to leave free-footed farm labor and take men of family or other dependents. It is hoped that the new plan will work with less friction and greater justice than did the old.

* * *

Pork and Bullets

The farm porker has been raised to an exalted position by the demands of the war. The Federal Food Administrator declared last week that "every pound of fat is as sure of service as every bullet, and every hog is of greater value to the winning of the war than a shell". Fully as eloquent and perhaps more convincing are the present quotations on hogs. On October 25 the bulk of sales of hogs on the Chicago market was made at $15.50 to $16.40 per hundred pounds; at New York, $15.75 to $16.25; at Pittsburgh, $15.75 to $16.50. These prices are from four to five cents lower per pound than prevailed a month ago, and it is almost certain that pork will advance again during the winter. But even with pork selling on foot at 15 cents per pound, there is every encouragement for farmers to put on hogs or increase the number now on their farms.

We are aware that it is not all easy profit even with these prices, and that the feeder must exercise care if he is to make a profit at all. With the present price of all feeds and everything that enters into the keeping of stock on the farm, it requires careful management. It is easy to say that growing the feed on the farm makes the farmer independent of the high feed prices; but it must be remembered that the early frosts cut down the yield of corn, the great hog feed, and there are many farmers who are buying feed this year that would have had a plentiful supply had the season been more favorable. One hard-working and patriotic reader writes: "The seventeen pigs that we had expected to fatten on home-grown corn will have to be fed on purchased grains. The corn was late and when hit by the early frost did not make enough to quite fill the silos for the cows this winter. The pigs made good growth on pasture this summer, but we will have to turn them into the woods to pick up what mast they can, and then buy feed to prepare them for market. Even at the present high prices, there will be little profit in them."

But while this experience is duplicated by many farmers this fall, there is every reason to look for good markets all of next year, and plans should be made now to have a good supply of hogs next summer and grow such crops as will fit them for market at the least cost. Displace shells with hogs.

* * *

Produce More

With the second bond issue fresh in our minds, with the first quota of drafted men in the camps, with the first loss of our sailors and soldiers in the sinking of the Antilles last week, every American must be fully aroused to the seriousness and immediate needs of the war. There are duties for all classes to perform and the farmers have one of the greatest in the production of foods. There have been differences of opinion on the matter of labor exemption, of price fixing, of percentage of profit allowed in the different industries. It is well to hold for equality of rights and equality of representation, but above all of these is the urgent necessity and the unquestioned duty to meet the first requirements of our country in war—and for the farmers that means more and more food products. The Federal Food Administrator said last week that the farmers of the United States can defeat the U-boats. They can by the exercise of the most intelligent and most energetic farming that they have ever done; and what is more, they will. We give below an extract from a report of a thoughtful farmer visiting the National Dairy Show last week. He presents the situation in a way that every farmer must appreciate and understand. He says:

"We know that this has been the busiest season that farmers have ever had. Next year promises to be even more strenuous, and never was there a time when intelligent and enthusiastic farm labor was as badly needed or as highly valued. I came to the Dairy Show direct from one of the great army cantonments in the Middle West, where over 40,000 of our young men are being taught the art of destructive warfare. As I looked upon the inevitable waste of war, looked over this tremendous camp, so big that it takes half a day to go over it thoroly in an automobile, when I considered that it is but one of sixteen similar cantonments and probably as many more army depots, I got a faint idea of what 40,000 men require.

"But when I looked over such cows as Sophia 19th, of Hood Farm, the Jersey cow that in the past six years has produced 5,537 pounds of butter from 75,920 pounds of milk; and when I looked over a string of Holsteins with records of 26,000 pounds of milk in a year; when I talked with dozens of quiet, determined dairymen; and when I looked over the great collection of labor-saving devices, I could not but believe that the trick can be turned and that the American farmer will measure up to the task that confronts him for 1918. But we need to work hard, and we need to work more intelligently than ever before."

The determined confidence of this farmer is typical of all farmers. Being a dairyman, he naturally saw the needs from the dairyman's point of view. His brothers in other lines need but to appreciate the great task before them and they will set themselves for the greatest records this country has ever seen. There is little room or time for quibbling between classes. There are but two classes in this country today—the loyal and the disloyal. The loyal will do the work that is laid out by circumstances to be performed. We have not been among those who have insisted upon increased production when circumstances, as measured by the returns to the farmer, did not justify a material increase. But now, when the country faces the greatest need of food products, and when the prospective returns warrant the putting forth of every ounce of energy, we believe that our farmers will recognize the duty and the opportunity.

HARRISBURG NOTES

Discussing New Plans.—Men interested in changing the method of administration of the State Department of Agriculture, with the idea of getting it closer to the people and divorcing it from politics, are already making plans to bring before the next general assembly schemes for reorganization. In the last four years no less than a dozen plans have been discussed, submitted, put in form of bills or defeated in legislative halls, yet the only one that got thru has proved a failure. Announcement of cost of the Commission of Agriculture has caused considerable criticism and emphasized the fact that the governor and the commission are far apart. Secretary Patton has said that he would welcome any suggestions for enlarging the work of the department and several members of the State Board of Agriculture are preparing for the January meeting some general plans of reorganization.

Definitely in Politics.—Despite assertions to the contrary, there is abundant evidence that the state administration is in municipal and county politics up to the neck in an effort to cut a figure in state politics next year. While sidestepping the Philadelphia situation as much as possible, the governor and his advisors are taking a big interest in the fortunes of mayorality candidates in Pittsburgh, Scranton and Harrisburg who will help them nominate a state ticket next year. The stain of politics is seen in many appointments coming from the governor's office, the naming of members of the legislature favorable to the governor last winter as commissioners to take votes of soldiers; the picking of political friends for commissions and the long delays in announcing selections for vacancies being abundant evidence.

State Aid.—The first installment of federal grant for aid in agricultural education thru the common schools, as distinguished from the grants made to such institutions as State College, will be paid before long. It is the plan of the State Educational authorities to devise a general plan of distribution and to select certain well-located and certain badly-located schools to test out the plan. Officials of the State Board say that this federal aid, together with the allowance made by the legislature, should permit the upbuilding of a practical system of agricultural education.

Sending in Produce.—While some districts report that farmers are not sending their produce to nearby cities or boroughs, the people who have been observing conditions say that there has been an increase in the amount ordinarily sold locally and that where farmers are not taking it into towns people are going out in automobiles to buy it. The curb markets in a number of towns have proved very successful. At the same time an immense amount of food is being sent into cold storage and there has been large storage of potatoes.

Can Not Consolidate.—The Public Service commission has ruled that consolidation of competing telephone lines is illegal. A dissenting opinion has been filed, but the majority rules. In a recent application for approval of a merger of two telephone companies in a rural section of Crawford County, it was found that the companies could be consolidated, giving the people they served better service at half the cost, it being understood that the commission would regulate the charges. In spite of this finding, the constitution is held to prevent consolidation. Unless the courts rule otherwise this situation must remain until a new constitution or amendments can be provided.

Hay in Demand.—A general demand all over the state for the hay raised this year is reported at the Capitol. Possibly a fourth of the crop has been baled, maybe more. Government requirements are said to be heavy.

Corn is Better.—The reports received here show that corn may be better than expected in some counties. Half the state may reach the average and possibly a dozen counties may go better. Southern counties, which produced more wheat than ever, are reporting more corn than usual. Last year the average yield was 37 bushels to the acre. The prediction is made that this will be beaten.

After Feeding Stuffs.—The agents of the state Department of Agriculture have started out to comb the market of feeding stuffs not up to requirements. As in the case of fertilizers, it has been found that there is a temptation to load up feeding stuffs. The Department has asked that people victimized communicate at once and send names and brands with samples.

More Pigs and Sheep.—While reports are only scattering there are signs that in many counties of Pennsylvania farmers are turning attention to sheep and hog raising. The attractive prices for wool and mutton, pork products and the like have boosted interest and if the proposition of winter feeding can be solved there will be a demand for pasture next spring.

Ready To Go Ahead.—Highway Commissioner O'Neil says the state will spend half a million dollars to help free toll roads, but that counties must match it. There are negotiations now under way to free half the toll roads in Pennsylvania and the commissioner says that if prices can not be agreed upon the state is ready to go into court.—Hamilton, Harrisburg, Oct. 28.

NEW YORK NOTES

Sugar Shortage. — A state-wide sugar shortage is on. Many stores already display "No Sugar" cards, while all limit the amount per customer from 1 to 5 pounds, according to local supplies. The candy industry is tied up. No hoarding of sugar by dealers is charged and in general, prices have not risen. The new crop of beet sugar from Michigan will relieve the situation somewhat and is due in three weeks. **But the condition of railroad delivery is such that this may be delayed a month longer. No real relief is looked for in the situation until January.**

To Conserve Food. — Over 1,600 women of New York city begin a week's campaign on October 26 to get every woman in the city to sign Commissioner Hoover's cards pledging obedience to instructions from his commission as issued from time to time in the effort to conserve certain articles of food which are scarce. Two meatless and two wheatless days each week are planned, altho real nutrition standards are not to be interfered with. The slogan is "substitution, not starvation".

Poorer Bread Flour.—Eastern millers must get their winter's supplies at once by way of the Great Lakes transportation, so as not to be at the mercy of the railroads later. This is ordered by J. F. Bell, Chairman of the milling division of the federal food administration, and is expected to benefit distribution for the coming six months. He also ordered the substitution of soft winter wheat for part of the hard spring wheats usually used for bread flour. The supply of winter wheat is plentiful, but hard wheat is scarce.

To Sell Coal.—New York City has asked permission of the state food administration to buy and sell coal to the people in an effort to modify the real coal shortage. The state fuel administrator has appointed district fuel administrators to cover the state to learn the actual fuel situation. He has real authority to take decisive action, but will first try to get wholesale and retail coal dealers to co-operate voluntarily. Many localities are already feeling the shortage.

Apple Crop Damaged. — Heavy rains and high winds caused much damage to the apple crop of the state this week, much fruit being blown off that will have to go to the canneries or the vinegar mills. The first heavy snowstorm of the season came October 24, and held up an already much delayed harvest. Farmers fear the loss of many acres of potatoes for lack of help and the hindrance of so much bad weather. Help is the crying need from all sections. The farm bureaus are advertising for farm help in the big cities but are securing little or none. The farmers place approval on the new draft plan and say that if it had been adopted at first the nation would be ahead many hundreds of thousands of dollars' worth of food crops which would have been saved had their laborers been spared in the draft.

Milk News. — The Dairymen's League officers face indictment under the Donnelly act in the milk investigations under way in New York City. It is now recognized by dairymen that the milk dealers are instigating the investigations in an effort to cripple the League. The dealers announce that can rental will be charged farmers hereafter, at the rate of 20 cents a can per month, or else the farmer must furnish his own cans. The Cincinnatus Dairy Company has secured a large order from the government for condensed milk. Machinery for the work of putting the milk into small tin cans will be installed at once, and work begun on the order.

Aliens To Be Barred.—Destruction of over three million dollars' worth of food stuffs along the New York City waterfronts in the last few days may lead to barring aliens from the water front.

Storage Eggs for Army Use.—The packers of Boston, Philadelphia, Chicago and New York will send a committee to Washington to urge the use of storage eggs as a food for the army. If this outlet were provided the packers will not lose on the 13 percent surplus of storage eggs on hand over last year's stocks in 440 stores reporting. The demand for these eggs is below normal.

New York To Try Market.—Mayor Mitchell has appointed Dr. Henry Moskowitz commissioner of markets, a man said to be devoted to the interests of the poor. He will attempt a city market on the plan proposed by Commissioner J. J. Dillon, with a cold storage plant to prevent waste of perishables. The new appointee will try potatoes as his first experiment in getting the product to the people at a minimum cost of distribution. It is hoped that a central milk distributing plan may be arranged for soon.—F.

NEW JERSEY FARM NOTES

Farm Implement Show.—Realizing that machinery will have to be a partial solution of the farm labor shortage problem, the State Experiment Station and the State Chamber of Commerce are co-operating to hold a large exhibit of labor-saving farm machinery sometime this winter, either at Trenton, Atlantic City, or New Brunswick. The tractor demonstration held at Plainsboro in September attracted a great deal of interest and gave farmers an opportunity to compare the various types of these implements under actual working conditions. The Experiment Station is continuing a study of the latest types of farm machinery. Several tractors and a motor cultivator have been secured for work on the college farm.

Bank Reserves. — The last currency call from Washington showed the 166 financial institutions in New Jersey, not including national banks, to be in a prosperous condition. The call made on September 11 showed gains of five million dollars in resources, nine million in deposits and four hundred thousand in surplus, as compared with the previous report of June 20.

Land Clearing Demonstration. — The farmers of the state are invited to New Brunswick on Wednesday of next week to witness a demonstration in up-to-date woodland clearing methods, which will be given under the joint auspices of the state Experiment Station and a leading powder company. Several methods, such as dynamiting, the use of stump pullers and burning with aid of certain combustible materials will be studied and employed. The work will be on a sufficiently large scale to allow a careful statement of costs of operation.

Vocational Schools. — The State Board of Education has requested the state commissioner of education to transmit to the Federal Board for Vocational Training, at Washington, its plans for carrying out the Smith-Hughes Act, under which each state is to receive federal aid for its vocational education, which includes training in agriculture. The first year New Jersey will receive over $30,000 and in the next ten years more than a million dollars in the plan of Federal distribution.—L.

NEW JERSEY FRUIT SHOW

A fruit and vegetable exhibit will be a prominent part of the annual meeting of the New Jersey State Horticultural Society, to be held at Newark, N. J., December 10 to 12. For full information, address Prof. A. J. Farley, Experiment Station, New Brunswick, N. J.

"NICE" on the label means Best in the Can

TRADE MARK NICE REG. U.S.A.
Mixed Paint

Made of the best raw materials, Pure Linseed Oil, Pure White Lead and Zinc; it excels in covering and wearing qualities.

Wagon and Truck Gloss Paint
For Farm Wagons, Trucks, Machinery, Implements, etc. Covers fine and is very durable.

Bridge, Barn or Roof Paint
Made from mineral pigments. Nothing better for Barns, Stables, Garages, Silos, Stock Buildings, etc.

"Nice" Stains and Enamels For Home Interiors
They can work a wonderful transformation. They are for all interior woodwork, Floors, Chairs, Furniture, etc.

Trokal Liquid Floor Varnish
For Floors whether natural wood or stained, Window Sills, Bath and Toilet Rooms, Wainscoating and all surfaces subject to severe wear, dampness, etc. Therefore the most durable varnish for all inside work. These and many other famously good "Nice" paint and varnish products described in your free booklet "Paint Pointers." Ask your dealer or write us today for a copy.

Eugene E. Nice
Philadelphia.

BUY THAT FARM
IN THE
NATION'S GARDEN SPOT
Virginia, the Carolinas, Georgia, Alabama and Florida, and test the most favorable climate in the United States for successful gardening, fruit growing, general farming, livestock and dairying.
Information free.
Wilbur McCoy, Dept G, A. & I. Agent, Jacksonville, Fla. | G. A. Cardwell, Dept. G, A. & I. Agent, Wilmington, N. C.
ATLANTIC COAST LINE RAILROAD
The Standard Railroad of the South.

USE CHEAP GAS ON ANY CAR
Run on Cheap Gas all Winter with this BEAR PRIMER
Guaranteed to start any car or tractor. Automatic. Self measuring. Shoots gas direct to intake ports. No guess work. No flooding, no pumps, no wear. Big saving. Price $5.00. Write for particulars.
Bear Mfg. Co. 104 Bear Bldg., Rock Island Ill.

Charred WICKS

Why? You have an old pair of scissors handy. You keep snipping a little here, a little there, trying to keep the flame even. The same thing every evening; but don't blame it all on the wick. If you use

ATLANTIC **Rayolight** OIL

instead of ordinary kerosene, you won't have charred wicks. There's a great difference in kerosenes. Rayolight Oil is so perfectly refined and scientifically purified that it always gives a sure, true light and an even, steady heat without smoking, sputtering or any nasty burny odors. Results like that are *worth* being particular about. *Insist* on getting Rayolight Oil. You'll always find it at stores that display the sigu: "Atlantic Rayolight Oil for Sale Here." That store is a good place to deal regularly, too.

It's a scientific fact that, of any artificial light, a kerosene lamp is the most restful and pleasing to the eyes.

THE ATLANTIC REFINING COMPANY
Philadelphia and Pittsburgh

PERFECTION
Smokeless Oil Heaters

Make cold rooms nice and comfortable regardless of the weather. Quick, radiant heat at the strike of a match. See them at your dealer's—$4.50 to $8.50.

Rayo Lamps
The always reliable light makers. Handsome designs for every room. Give a clear, mellow light, ideal for all purposes. At your dealer's, $1.90 up.

Rayo Lanterns
Safest and best. Give a piercing, far-reaching light on the darkest night. Durable construction. Oil founts never leak. At your dealer's, 50c up.

Turn Your Bags Into Dollars

Get those old bags out of the barn and turn them into money. We pay highest prices for torn or sound bags and buy any quantity. We also pay the freight.

Quick returns guaranteed. You take no risk in dealing with us.

We are an old established reliable house. Before you sell get our prices. Write now.

Burnett Bag & Burlap Co.
Brooklyn, Maryland.

Hogs Thrive on Tankage

Tankage builds big frames to carry fattening. Experiment station reports show that tankage is the cheapest and the best feed for hogs and growing pigs.

Martin's Abattoir Tankage

is carefully sterilized, especially prepared and ready to feed. It produces money makers for you. Buy direct from manufacturer and save money. Prices on request.

D. B. MARTIN COMPANY,
30th & MARKET STS., PHILA.

Free Baits For Trappers

$1.00 Bottle Write today before our supply is exhausted and we will tell you how to get free the *Guaranteed Decoy.*
BACH FUR CO., Dept. 158 New York City

SKUNKS

and all other furs will be high this season. I trapped from 1890 to 1899 the year I started in business, and I know the hard ships a trapper has to contend with. Why not ship your furs this season to a man that understands the business from the trap line to the finished garment. I am that man and I want you to have my free price-list when the season opens. Write for it now.
JAS. P. ELLIS, EXPORTER
37 to 39 Mill St., Middletown, N. Y.

Sabo Sure Catch Trap. Designed to be placed in the animal's burrow. Your hardware dealer has them. Write for booklet. Agents Wanted.
SABO TRAP MFG. CO.
3128 W. 25 St., Cleveland, Ohio

Furs Furs Furs

Special prices paid for all kinds of furs. Write for prices at once.
CHAS. J. STRALEY,
Dealer in Raw Furs, LITTLESTOWN, PENNA.

Five Fine Ohio Farms for sale, Logan Co., 80 to 250 Acres, prices $90 to $225. Splendid homes or fine investments. John A. Parker, Bellefontaine, Ohio.

SKUNK We pays top prices for Skunk, Mink, Muskrat, and all raw Fur. Price list free. M. J. JEWETT & SONS, REDWOOD, N. Y. - DEPT. 12.

Make This Your Big FUR YEAR—Ship your pelts to the HOUSE of QUICK RETURNS—the HOUSE of LIBERAL ASSORTMENTS. Send for S. & B. Price list. It's Free.
STRUCK and BOSSAK, Inc.
150 West 28th Street, New York.

RAW FURS
Quick Action Brings Best Results! Write for Price-list & ship to George I. Fox, 167 W. 25th St N.Y. (FORMERLY 7th AVE)

Live Stock

FEEDERS AND FERTILIZERS

Meat on the hoof will command a top price in 1918 and bumper crops cannot be produced without fertilizer. This necessity is cheap when produced on the farm. Feeders and sheep produce the most fertilizer. It is too late to think of sheep for early lambs and a busy farmer without good, fenced-in pasture must consider the sheep question before he attempts to grow summer lambs, because they will require most attention and care when outside duties are necessary.

However, feeder steers can be purchased any time. They produce manure in abundance or in proportion to bedding furnished and food and roughage consumed. It is well to remember that there are two distinct grades of feeders: The good and bad animals. I would caution prospective buyers to select cattle carefully. The cheap, long-legged, hollow-chested, humped or hollow-backed varieties are cheap in every respect. Such animals will never show meat conformation and are invariably fed at a loss. But the first grade, straight top and bottom, built-from-the-ground steer of almost any weight will finish at a profit and produce a quantity of rich fertilizer which, when restored to the field, will assist in producing bumper crops for 1918.—A. L. R.

A Trio of Blue Ribbon Berkshires

WINTER CARE OF HORSES

The poorest way to winter idle farm horses, no matter what age, is to keep them in the stable, feed them night and morning and put upon the caretaker the job of currying them and hauling out the manure which accumulates. The horse, of all animals on the farm, needs the most exercise. He is grown for work and not to stand idle in the stable. Every farmer should have at least one team for active work. These, of course, should be stable fed and groomed and the manure kept cleaned up. But when horses are not in use, take off their shoes, turn them out into a pasture or in the stalk field, give them shelter from the storms, give them hay or straw, whatever grain they will need—which is ordinarily not very much when they are doing nothing—and let them take care of themselves.

A mature horse, when not at work, needs only food for support of body; in other words, needs simply to keep warm. With the above mentioned foods as fuel and the chance of exercise he will keep warm enough. From considerable experience I have found that it is no trouble to winter horses if one has winter pastures, whether that be bluegrass which has not been eaten off close, corn stalks or second-crop clover.

But it is not best to try to winter weanlings in this fashion. They need the exercise—the chance at the grass—but they should have some grain if they are desired to become fully developed horses. A colt should get plenty of protein in its ration. He is desired to grow rather than to get excessively fat. I once fed my colts on straw and oats because I did not believe it would pay to buy clover at the high price it was bringing. But I will never do it again. They weighed less in the spring than they did the fall before. They made up for a part of the lost growth but the rest was lost and gone forever. I sometimes give them a feed of oats straw or corn fodder but their main feed is clover or alfalfa. As a rule I feed oats, altho when on clover they apparently do almost as well on corn.

The suckling colt needs a little pampering, especially those that have been w They miss the moth 's milk and a little bran or chop comes in very handy. Oil meal is mighty good, not only for its value as a food but also for its value as a conditioner. It helps to prevent worm troubles to which young colts are subject and keeps the digestive tract in good condition. But if the colt gets worm troubles, a teaspoonful of copperas once in a while helps to clean it out.

There is no need of allowing a horse to eat its head off during the winter and particularly by feeding on forage which is necessary for the cow or the ewe, but not necessary for the horse. Nor is there any profit in exposing horses to hardships without giving them food sufficient in quantity and quality. On many farms there are running streams in the pasture and when the horses are at large in the fields and can go to the brook and get a drink when desired, this is ideal. But horses kept stabled or worked steadily will either have to be taken to the water or it taken to them. The best plan is to take the animals to the well and let them drink the water fresh as drawn as water just from the well is at the right temperature in winter. A horse on dry feed will drink more water than is generally supposed if the water is not too cold.—H.

SAVE THE SOWS

Selling a brood sow at this time is killing the goose that laid the golden eggs. When pork is selling at 18 cents or more a pound on the hoof, the hog breeder may be tempted to

urn into cash all that he can sell; et the department points out that he value of a brood sow which will roduce such high-priced offspring is roportionately increased and she hould be kept as the source of fur-her and future profits.

Since the beginning of the war the umber of swine in all countries has ecreased, and the decrease has been arked in some of the belligerent ountries. In France, for example, the three years just before Janu-ry 1. 1917, the number of swine de-reased 38.12 percent; during 1915 he number in Germany decreased 1.47 percent.—U. S. Dept. Letter.

SKIMMILK CHEAP FEED

oung Pigs Make Faster Gains at Lower Cost on Protein Supplement with Corn

Hogs fed some high-protein supple-ent in addition to corn make more apid and cheaper gains and are orth more on the market than thers fed corn alone for the same ngth of time. Skimmilk has proved e of the cheapest supplements for oung pigs.

While pigs weighing 43 pounds ained only a third of a pound daily hen fed corn alone for 15 weeks at e Ohio Experiment Station, others the same age gained nearly a und a day when fed equal weights corn and skimmilk. Another lot d three parts of skimmilk to one rt of corn gained a pound and a ird in the same test. Skimmilk d a higher feeding value, on a dry-atter basis, when fed in these pro-rtions than tankage when it con-ituted 10 percent of the ration.

The value of the gain less cost of ed of the corn-fed pigs was com-ted at $10.21; of those fed corn d tankage, $12.38; of those fed ual parts corn and skimmilk, 4.50; and of the others fed three rts of skimmilk to one of corn, 2.67.

Skimmilk proved more profitable th these young pigs than with er animals. Pigs after weaning ed about three pounds of skimmilk a pound of corn. This amount of immilk may be reduced a half as pigs approach maturity.

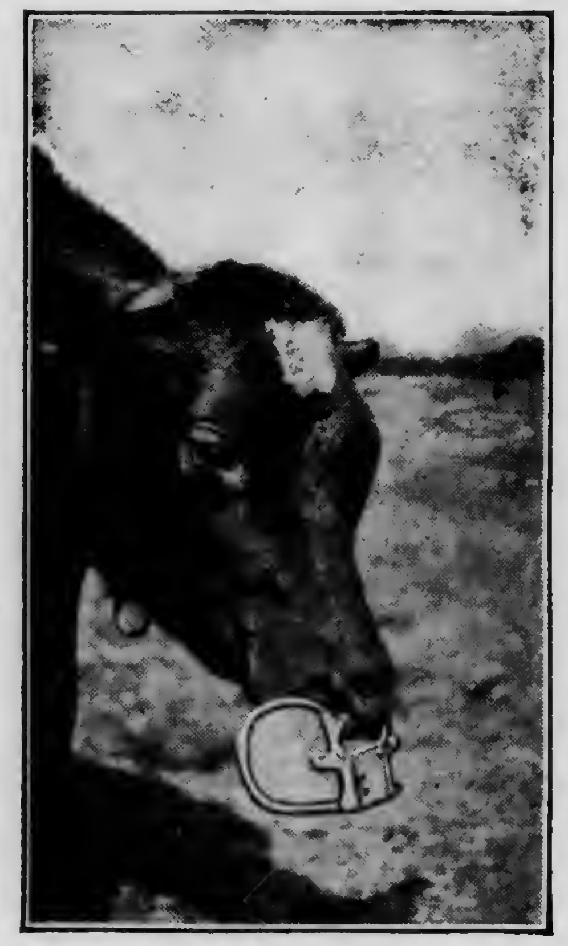
The pigs fed equal parts of skim-lk and corn were worth 3.7 per-t more on the market than those corn alone. Skimmilk was worth cents per hundredweight when in equal proportion to corn valued $1.68 a bushel, and 57 cents when with a third as much corn. Eight nds of skimmilk fed with an equal ight of corn was equal in feed-value to a pound of tankage fed h nine times as much corn.

ATION DETERMINES PROFIT

hat the ration received by fatten- hogs has much to do with the nomy of pork production has been wn clearly in demonstration feed- tests conducted by the Missouri lege of Agriculture and the Kan- Agricultural College. R. M. Wat-s, manager of the demonstration yards at St. Joseph, presents the owing data concerning the cost of ducing pork with the various ra-s.

he results given are the average our successive ninety-day feeding iods. A ration of shelled corn and kage required 389 pounds of shell-orn and 28 pounds of tankage to uce 100 pounds gain. The cost ain was $15.15 a hundred. A on of shelled corn, and linseed l required 415 pounds of shelled corn and 27 pounds linseed meal to produce 100 pounds gain. The cost of gain was $15.63 a hundred. One period of feeding shelled corn, tankage and shorts showed approximately the same cost as shelled corn and tankage. The feed prices upon which these figures are based are corn $2 a bushel, tankage $4.50 per hundred pounds, linseed meal $3 per hundred pounds, shorts $2.50 per hundred pounds.

Feeders will note that pork can be produced, with feed at its present high price, at about $15. With pork at $18, this makes a margin of nearly $3 to insure a reasonable profit. The unanimous opinion of the best authorities is to the effect that the present high price of hogs will be maintained for some time to come because of the demand for pork products and the apparent scarcity of them. The fact should also be considered that if crops can be fed on the farm, and made to bring as much money as they would if sold, that the fertility left on the farm makes that method highly advisable.



Anti-Sucking Device

CEMENT FLOORS PAY THEIR COST IN A YEAR

By increasing the value of the manure produced, cement floors in livestock feeding will return their cost in about one year. Tight stable floors save soluble plant food from seeping away as it does with earth floors.

Manure was increased in value by $·48 annually for every thousand pounds live weight of steers over that recovered from animals standing on earth floors in tests conducted at the Ohio Experiment Station. In the experiments 58 steers were fed. The cost of concreting was about $4.50 a steer. Two six-month feeding periods would therefore pay for the expense of the concrete floors.

CLEANLINESS KEEPS ANIMALS WELL

Proper nourishment and clean surroundings are helpful in combating animal diseases. Feeding balanced rations will take care of the nourishment factor. Clean and sanitary surroundings are as essential as proper nourishment. Drainage of quarters, ventilation, keeping sheds and stalls free from manure, dust and other rubbish, a liberal use of lime and other disinfectants, and eternal war on parasites will reduce the veterinary bill to the minimum.—Mo. Circ.

Which is Cheapest and Best Ration for Fattening Hogs?

Four Valuable Experiment Station Tests

Here is some mighty valuable information for hog raisers. Four instructive feeding experiments were conducted under the supervision of the Missouri and Kansas Experiment Stations at the St. Joseph, Mo., Stock Yards, to determine the comparative values of different rations for fattening hogs.

60 Cholera-immune hogs were selected and divided into lots of 15 each, as uniform in weight, quality and condition as possible.

The First Thing the Experts Did

Previous to starting this feeding test, the first thing the experts did was to get rid of the worms. They knew the importance of this step because no hog can thrive or fatten to best advantage unless free from these blood-sucking, feed-consuming, disease-breeding pests. They also knew that all hogs, unless previously treated, are always infested with worms. This is a very important point for you to remember—especially now when feed prices are so high.

Following is a result of the tests covering a period of 100 days:

Lot No. 1 with a ration of shelled corn and tankage (60% protein) made a total gain of 181.4 lbs., per hog and a net profit of $5.78 each.

Lot No. 2 with a ration of shelled corn and linseed meal (old process) made a gain of 147.2 lbs., per hog and a net profit of $3.95 each.

Lot No. 3 with a ration of shelled corn alone made a total gain of only 110.5 lbs., per hog and a net profit of only $1.88 per hog.

Lot No. 4 with a ration of shelled corn and skim-milk made a total gain of 190.8 lbs., per hog and a net profit of $6.53 per hog for the 100 days feeding. This lot made the greatest gain and the most profit.

No matter how YOU are feeding YOUR hogs, it is absolutely necessary, in order to get the cheapest and best results, that they are kept free from worms. You cannot afford to neglect giving them a good worm remedy like SAL-VET — the greatest, safest, surest and most widely used worm destroyer and conditioner — the cheapest and best worm remedy you can buy.

For only 2½c per month per hog you can keep your hogs free from worms, save feed, get faster gains, make maximum profits and avoid dangerous diseases, because healthy, worm-free hogs are less liable to contract fatal diseases. SAL-VET is not only best for hogs, but for sheep, horses and cattle.

"Please send us two barrels of SAL-VET at once. This is the best thing we have ever used. We use it for sheep, horses and over 100 hogs and find it all you claim."
A. J. LOVEJOY, Roscoe, Illinois.
Ex-Pres. International Live Stock Exhibit, Sec. Berkshire Breeder's Ass'n.

"My SAL-VET is all gone. Send me another barrel at once. $5.00 worth of SAL-VET saved me $10.00 worth of feed. My hogs, sheep, cows and horses are doing remarkably well. My experience has been that SAL-VET and worms cannot dwell together."
E. A. DONTRAGER, Fairview, Mich.

"I have been in the hog business for thirty years and have tried every known remedy for hogs, but have never found anything to equal your SAL-VET. It certainly does the work and is easy to feed. I fed it to little pigs, boars, pregnant sows and find it O. K. I'll never be without SAL-VET."
G. F. MARSHALL & SON, Monroe, Iowa.
Owners of Silver Cup Herd of Poland Chinas.

Test It 60 Days At Our Risk You can test SAL-VET 60 days at our risk. Go to your dealer and get a supply on our absolute guarantee that it will do all claimed for it or money refunded. If he cannot supply you write to us. Don't continue wasting high priced feed by feeding worm infested stock.

NOTE—We have just issued a New Live Stock Book that will be sent free on request.

THE FEIL MFG. CO., Chemists, Dept. 105 Cleveland, Ohio
[283]

The Best of Tankage

should be fed to your hogs. Don't take a chance and feed them poor low-grade material. Be sure of your tankage and protect your stock by using

Ideal Digester Tankage

Made from the best of meat scrap, carefully sterilized. If you are not satisfied with results, we will return your money. Order now while we can supply you.

Prices, Feeding Directions, etc., free on request.

IDEAL MEAT SCRAPS TRADE MARK

We also make "Ideal Meat Scraps" best for increased egg production in winter. Write for prices, etc.

IDEAL RENDERING CO.
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CORN INSURANCE

The best and cheapest corn insurance you can buy, that will save every ear of your corn crop, is a Marshall Iron Corn Crib. Built of heavy zinc galvanized iron. Cost no more than old style wooden cribs. Store corn in rat-proof, fireproof, weather-proof

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Just send a postal with your name and address and we'll mail you this big free catalog folder. Tells how Marshalls cure corn better. A size to fit every farm. Write today for your copy.
IRON CRIB AND BIN CO.
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PEERLESS Fodder Shredder

If you have 3 H. P. engine you can run this 14 inch machine successfully. Will pay for itself in one year's use. Will not pulverize blades and tops. Sold on 30 days free trial. Write for price and catalog.

A. M. Dellinger, Lancaster, Pa.

Stock Yard HOG FOOD $40 ton

25 to 30 per cent. protein—10 per cent. fat. In 100 lb. bags. 3 cts. lb. less than ton lots. Ask for samples.

CONSOLIDATED DIGESTER TANKAGE
Meat and bone. 40 to 45 per cent. protein—12 per cent. fat. $65 per ton. Less than ton lots, 4 cts. lb.

CONSOLIDATED DRESSED BEEF CO.
Offenhauser Department B
STOCK YARDS PHILADELPHIA, PA.

BUY Cotton Seed Meal Prices have hit bottom. Book for fall shipments. Ask for car lot prices. **NOW**
J. E. Bartlett Co., Mill K, Jackson, Mich. Low prices-salvage grains-mill feeds

THE GENUINE SMITH **STUMP PULLERS**
W. SMITH GRUBBER CO.
CATALOG FREE-DEPT. 43 LA CRESCENT, MINN.

"We Want Cooked Food"

So does every sensible hog. Cooked Food tastes better, digests easier, goes farther, and makes more meat profit. Send today for "Growthy Porker's" message explaining the advantages of cooked food and giving details about

HEESEN COOKERS

Tank Heaters, Hog Troughs, etc. 60,000 farmers in America are boosting profits, cutting feeding cost and eliminating disease among cattle, hogs, sheep and poultry, by using Heesen products. Help your country. Save the grain. Cook your stock food and make it go farther. And you can also use the cooker for rendering lard, heating water, boiling syrup, etc. Write today for circular.

HEESEN BROS. & CO. Box 536 Tecumseh, Michigan

Great Bargains in Evercote Guaranteed Paint

As a striking example of our ability to save money for our customers, we offer Evercote House and Barn Paints. We guarantee that Evercote Paints will measure up to every requirement, that they are made of the finest and purest materials; that they will not peel, blister, chalk or rub off when properly applied; that their luster is enduring; that the colors are permanent; that their spreading qualities are superior and that in use now by thousands of Charles William Stores customers, they are giving unbounded satisfaction. Evercote Paints are uniform in quality; ready-mixed and ready to use the moment you open the can. Our prices are based on manufacturing cost in one of the finest factories in New York plus just one small margin of profit. Remember that paint is just one of thousands of articles sold by us so that a very small profit on each item yields a satisfactory return.

COLORS OF EVERCOTE HOUSE PAINT
Order by Number and Color

29A285	Pea Green	29A41	Colonial Yellow
29A20	Slate	29A39	Terra Cotta
29A240	Blue Gray	29A246	Outside White
29A209	Inside White	29A14	Brick Red
29A283	Light Gray	29A18	Shutter Green
29A37	Medium Brown	29A233	Dark Green.

$1.65	$1.72	$1.80	$1.85	95c	50c
Per Gallon 50-Gallon Barrel	Per Gallon 25-Gallon ½ Barrel	Per Gallon 5-Gallon Can	Per Gallon 1-Gallon Can	For ½-Gallon Can	For 1-Quart Can

Paint the Barn Now

Evercote Barn Paint is far the best waterproof and weatherproof barn paint to use—and the price is low—surprisingly low. We have a long-time factory contract, made when raw material prices were low—much lower than they are today—and this big saving we pass along to you.

29A175	Brown	29A176	Red
29A177	Slate	29A178	Yellow
29A179	Moss Green		

1-Gal. Can	5-Gal. Can	25-Gal. ½ Barrel	50-Gal. Barrel
96c Per Gal.	94c Per Gal.	89c Per Gal.	86c Per Gal.

OUR BIG FREE PAINT BOOK Shows 162 color chips, describes everything you need for any kind of painting, quotes the lowest prices, explains our unusual guarantee. Send for it today—right now—before you spend a dollar for any kind of paint or painting. It will save you money.

MAKE YOUR NEY GO FARTHER!

In the Present Crisis, E Is the Watchword of the Nation

Real economy does not consist in doing without th ed. It means the abolition of extravagance from our homes and the purchase of necessities at the lowest possible prices wit e of quality. Economy means buying DIRECT—making a handsome saving over retail prices—taking advantage of quantity p ash prices in the best markets.

The Charles William Stores helps you in all these things. d in the heart of the nation's greatest merchandise center. We buy in tremendous quantities from primary sources of supply. We never miss a cash e sell direct to you. We have done away with expensive showrooms and eliminated every unnecessary buying and selling expense. We have no sal ur catalog, no bad debts, no costly credit system. Our ten mammoth warehouses are bulging with the finest products of the nation's greatest fac kshops. Most of these goods were bought on specially advantageous terms before present prices took effect and represent the biggest merchandise bar ica today. We have a trained organization of 4,000 people who specialize in pleasing our millions of customers. Our location in New York City and spl tation facilities by rail and water make us practically next door to you. This means economy of time in delivering your goods. Every article we sell is b nclad guarantee of satisfaction or your money back.

In the face of these advantages—while retail prices the countr ring almost beyond belief—we urge you to give us an opportunity to prove that we can satisfy you on everything you need for your home, workshop or farm, r than you can obtain from any other house on merchandise of standard quality.

The items here represent only a few sample values. There a e in the pages of our catalog, "Your Bargain Book," which you have in your home. Get this book out today! It will help you make every dollar you spend show you the way to real ECONOMY. The more you order the more you save.

Bargains in Evercote Guaranteed Roofing

Now is the time to cover your house or barn with Evercote or Sandow Guaranteed Roofing. Positively the strongest and best roofing obtainable, regardless of price. Absolutely waterproof, weatherproof, rotproof and fire-resisting. We guarantee that the Evercote and Sandow Roofing you buy will wear a definite number of years. Sold at prices much lower than you will pay elsewhere. Anyone can lay Evercote or Sandow Roofing—the only tools required are a hammer and a knife. Each roll is 32 inches wide and contains 108 square feet. Nails and cement are included free of charge with each order.

Evercote Standard Rubber Style Roofing

Is made of long fiber felt, saturated with mineral asphalt and coated with asphalt composition that makes it tough and pliable. Exceptionally durable, fire-resisting and unaffected by steam, vapor, gas or climatic conditions. Will not taint or discolor rain water. When properly laid it is water tight and moistureproof. Called "rubber roofing" because of its smooth finish appearance, but no rubber is used in its manufacture.

	Ply	Shpg. wt.	Guaranteed	Per roll
728A3002	1	35 pounds	5 years	$1.27
728A3004	2	45 pounds	8 years	1.63
728A3006	3	55 pounds	12 years	1.95
728A3010	3	55 pounds	12 years	1.97
728A3012	4	65 pounds	15 years	2.25

Use 1¾-inch nails over old shingles.

Sandow Sand Coated Asphalt Guaranteed Roofing

Made of selected wool felt, thoroughly saturated with an asphalt composition and then coated with a layer of tough flexible mineral asphalt in which finely washed sand has been embedded to give it a hard and solid surface. If you desire to do so you can add more sand to its surface by applying a coat of our asphalt roofing coating and then sprinkling the sand upon it before it drys. Remember that Sandow Roofing is guaranteed to wear from 7 to 12 years.

	Ply	Shpg. wt.	Guaranteed	Per roll
728A2020	1	55 pounds	7 years	$1.29
728A2022	2	65 pounds	10 years	1.58
728A2024	3	75 pounds	12 years	1.86
728A2021	3	75 pounds	12 years	1.90

Use 1¾-inch nails when laying over old shingles.

For Complete Line of Roofing at Bargain Prices See "Your Bargain Book," Pages 880 to 883

You Can't Afford to Waste an Ounce of Butter Fat Today!

You Don't Have to Own a big herd of cows these days of high prices for milk, butter and cheese to make money in dairying. Even if you own only two or three cows, you make a handsome profit, **if you get all the butter fat.**

Don't Waste the Butter Fat! Don't let an ounce of it get away! Don't waste the milk, either! Send it through a good cream separator which will save every ounce of butter fat. Separator cream brings the highest market price, always, and then you have the sweet, warm skimmed milk for the little calves, pigs and chickens—also big profit producers these days. We will help you save all the butter fat and milk. We will sell you a Maynard Cream Separator on long time, so that your extra profits will pay for it. We will send you just the right size for your herd of cows upon receipt of $2.00. The balance you can pay in eleven monthly payments, and you won't miss the money either.

The Maynard Is the Simplest and best cream separator. We guarantee it for life. No better cream separator made, regardless of name, make or price—yet we sell it at almost half the price asked by dealers and agents for other machines. Has the famous aluminum one-piece skimming device, skimming the milk eight times in one operation—easy to wash and keep clean and sweet—no discs to bother with—low down supply can—pivot ball bearings which make it easy for a boy or girl to operate. It is so simple, so well made that there is nothing to get out of order.

The Maynard is sold on 30 days free trial test on your own farm. If you don't like it after using it night and morning for a whole month, ship it back to us and we will return your money and pay the freight both ways.

Order Direct from this advertisement if you want it in a hurry. Send us $2.00 and say, "Send me a Maynard Cream Separator quick, and if I like it I will pay the balance in eleven monthly payments beginning 30 days from date. If I don't like it after using it 30 days, I will send it back and you are to pay the charges both ways and return the $2.00." It's very simple, you see—no red tape—no risk—no trouble—except to write the letter. Write it today—right now—even though you have only two or three cows—you can make the Separator pay for itself in a short time out of the extra profits. **Most of our customers prefer the Maynard No. 5.**

FOUR SIZES—FOUR PRICES—EASY PAYMENT TERMS

Maynard No. 3 (For 3 to 5 Cow Farm)
Order Catalog No. 734A3
$2.00 with your order, then eleven monthly payments of $2.80 each, or cash in full with order...... $31.15

Maynard No. 4 (For 3 to 8 Cow Farm)
Order Catalog No. 734A4
$2.00 with your order, then eleven monthly payments of $3.61 each, or cash in full with order...... $39.20

Maynard No. 5 (For 3 to 20 Cow Farm)
Order Catalog No. 734A5
$2.00 with your order, then eleven monthly payments of $4.06 each, or cash in full with order...... $44.35

Maynard No. 6 (For 3 to 35 Cow Farm)
Order Catalog No. 734A6
$2.00 with your order, then eleven monthly payments of $4.46 each, or cash in full with order..... $48.45

Bathroom Outfit

$55.80

Bathtub, 5 feet long, of cast iron, lined with white porcelain enamel. Furnished with No. 4½ nickel-plated brass Fuller bath cock for hot and cold water. Nickel-plated brass waste and overflow pipe; two offset nickel-plated brass supply pipes with floor flanges. Lavatory of cast iron, size 18x21 inches with 8-inch back, 4-inch roll rim; porcelain enameled in one piece, with "D" pattern bowl. Has two nickel-plated brass low down compression basin cocks with china index tops. Two nickel-plated supply pipes to wall; 1¼-inch nickel-plated brass trap to floor; chain and rubber stopper. Closet bowl is syphon washdown, of best vitreous earthenware. Seat is polished golden oak. Nickel-plated brass offset hinges. Seasoned oak tank, golden polished; lined with copper; 6½-gal. capacity. Rubber ball valve and improved flush valve operated by push button. Furnished with nickel-plated brass supply and flush pipes. Shpg. wt., 480 lbs. $55.80

26A0400	For lead pipe connections, complete........	
26A0401	For iron pipe connections, complete........	$56.05
26A0452	Bathtub only, with fixtures, for lead pipe connections. Shpg. wt., 300 lbs.	19.50
26A0453	Bathtub only, with fixtures, for iron pipe connections. Shpg. wt., 300 lbs.	19.90

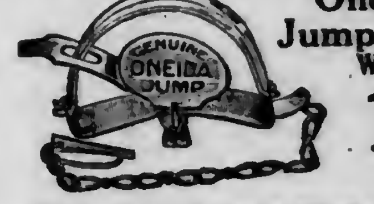
For full line of Plumbing Supplies, Mechanics' Tools and Accessories, see pages 900 to 972 of our catalog, "Your Bargain Book," which you have in your home

There's Money in Trapping

Farm boys—and grown-ups, too—can pick up many dollars this Fall and Winter by trapping. Furs were never so expensive as now and the demand is steadily increasing. Skunk, Opossum, Mink, Muskrat, Raccoon, Badger, Coyote—every one of these little animals yields a pelt worth real dollars to you.

"Your Bargain Book"—our big 1000-page General Catalog which you have—illustrates and describes everything the hunter and trapper needs. Astonishing values, wonderful variety and surprisingly low prices.

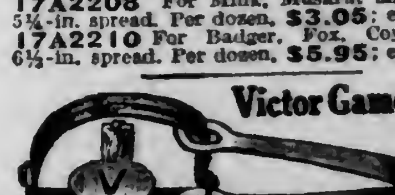
Oneida Jump Traps With Chains 15c Up



These are strong, single spring traps; light and compact. For larger and more powerful traps, see page 672 of "Your Bargain Book."

17A2206 For Rat, Gopher, etc. 4-inch spread. Price, per dozen, $1.73; each 15c
17A2207 For Skunk, Opossum, etc. 4¾-in. spread. Price, per dozen, $2.04; each 18c
17A2208 For Mink, Muskrat and Skunk. 5¼-in. spread. Per dozen, $3.05; each 26c
17A2210 For Badger, Fox, Coyote, etc. 6½-in. spread. Per dozen, $5.95; each 50c

Victor Game Traps



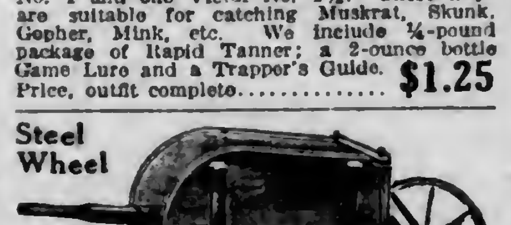
Every trapper knows these celebrated traps. Our prices are extremely low as you will note:

17A2200 Spread 3½ inches. Price, per dozen, $1.22; each 11c.
17A2201 Spread 4 inches. Price, per dozen, $1.44; each 13c.
17A2202 Spread 4⅝ inches. Price, per dozen, $2.16; each 19c.

Sure Catch Trappers' Outfit

17A2320 Splendid outfit for the boy on the farm who would like to set a few traps. The outfit contains one Jump Trap No. 0; one Victor No. 0; one Jump No. 1; one Victor No. 1 and one Victor No. 1½. These traps are suitable for catching Muskrat, Skunk, Gopher, Mink, etc. We include ¼-pound package of Rapid Tanner; a 2-ounce bottle Game Lure and a Trapper's Guide. Price, outfit complete.......... $1.25

Steel Wheel



$2.80

1A3482 Made of selected hardwood, painted red and strongly braced with wood. Removable sides. Has a well made steel wheel, 18 in. in diameter. Bed is 26 in. long and 11½ in. deep. Shpg. wt., 45 lbs. Price, each $2.80

The Maynard

Guaranteed and Sold

The High Cost of Farm Labor

an engine almost a necessity on every farm, but the high has made many farmers feel that the operating cost of an gasoline only would be prohibitive.

Here Is an Engine in either 3, 5 or which gives you a a very low cost because it burns cheap kerosene just as well is a high compression, throttle governed engine, designed use of kerosene. It is equipped with the new model k with automatic air valve and water spray valve. There are no complicated adjustments necessary to change from gasoline from kerosene to gasoline. It is equipped with genuine W guaranteeing steady and reliable ignition. Heavy double forged crank shaft, fuel tank enclosed in cast sub-base, moving parts, spark advance and retard lever speed control, with water jacketed cylinder and cylinder head.

We Warrant the Maynard to than power, to do it continuously and without injury. We sell it than dealers ask for their lowest priced gasoline engines. We with the distinct understanding and agreement that you may giving it every test you care to give it, and if it is not entirely you, ship it back to us at our expense and we will return the and any freight charges paid by you. You cannot ask for than this. We are ready to ship promptly from our big stocks

The Maynard Jr. 1½-Horse Power Gasolin

Type, Gasoline only. Four-Cycle Horizontal. Bore, 3½ in. speed, 500 R.P.M. Maximum speed, 600 R.P.M. Diam. each wheel, 34 lbs. Diam. crank shaft, 1¼ in. Capacity wa Capacity fuel tank, 1 gal. Length of piston, 4 in. Diam. of pulley, 3 in. Shpg. wt., 225 lbs.

The 1½-H.P. Maynard is built for the use of gasoline only small amount of fuel used to run it. The 1½-H.P. differs from in that the cylinder head is not water jacketed but is air cooled important respects the design is the same.

740A84 Maynard 1½-H.P. Gasoline Engine, with batteries.
740A85 Same Engine, complete with Webster Oscillating M
740A841 Hand truck, four 12-inch wheels, for mounting this

The Maynard 3-Horse Power En

Type "K" Gasoline-Kerosene Four-Cycle Horizontal. Bore, Normal speed, 450 R.P.M. Maximum speed, 550 R.P.M. Diam. each flywheel, 81 lbs. Diam. crank shaft, 1 9/16 in. Capacity Capacity fuel tank, 3½ gals. Length of piston, 5½ in. Diam. of of pulley, 6 in. Shipping weight, 480 pounds. Webster Magneto The 3-H.P. Gasoline-Kerosene Maynard will operate a operate a corn sheller, feed grinder, cream separator, churn, etc. famous Webster Oscillating Magneto.

740A96 Price, as described..........................
740A842 Hand Truck with four 12-inch iron wheels for
Weight, 140 lbs. Price, each..........................

IDEAL FARM POWER

Burns Gasoline or Kerosene

The Maynard 5-Horse Power Engine

Type "K" Gasoline-Kerosene Four-Cycle. Bore, 4¾ in. Stroke, 8 in. Normal speed, 400 R.P.M. Maximum speed, 500 R.P.M. Diam. flywheel, 26 in. Weight each flywheel, 142 lbs. Diam. crank shaft, 1¾ in. Capacity water hopper, 6 gals. Capacity fuel hopper, 6 gals. Length of piston, 6 in. Diam. of pulley, 12 in. Face of pulley, 6 in. Shpg. wt., 725 lbs. Webster Magneto Ignition.

The 5-H.P. Gasoline-Kerosene Maynard is the best all around farm engine on the market today. It is the most practical size. It delivers all its power at the belt pulley, smoothly and steadily. Mounted on a truck, the 5-H.P. Maynard makes the ideal all around engine for all the ordinary work on the farm.

740A97 Price, as described.. $87.00

The Maynard 7-Horse Power Engine

Type "K" Gasoline-Kerosene Four-Cycle Horizontal. Bore, 5½ in. Stroke, 10 in. Normal speed, 370 R.P.M. Maximum speed, 450 R.P.M. Diam. flywheel, 36 in. Weight each flywheel, 230 lbs. Diam. crank shaft, 2 in. Capacity water hopper, 12 gals. Capacity fuel tank, 8½ gals. Length of piston, 7 in. Diam. of pulley, 14 in. Face of pulley, 8 in. Shpg. wt., 1265 lbs. Webster Magneto Ignition.

The 7-H.P. Gasoline-Kerosene Maynard is a heavy duty engine, large enough for all the work on the farm. It will run a 10-inch feed grinder, a 12-inch buhr mill, a 12-inch ensilage cutter with blower elevator or a 16-inch ensilage cutter with conveyor elevator. It will pull a two-roll husker and shredder, a four-hole corn sheller, a power hay press or run a 30-inch buzz saw.

740A98 Price, as described.. $128.00

We can supply horse trucks, portable sawing outfits, pumping outfits and other equipment to go with these engines. Ask for a free copy of our FARM BARGAIN BOOK.

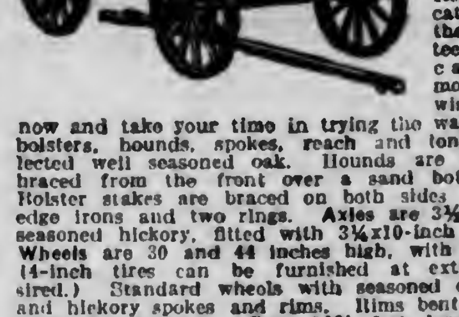
PLEASE GET OUT "YOUR BARGAIN BOOK," OUR CATALOG WHICH YOU RECEIVED FROM US T

If you failed to receive it please borrow one from your neighbor, and look carefully through pages before you spend a dollar for anything. More than 100,000 prices are quoted in this book—every price meaning a big saving to you. We guarantee to save you money just as guarantee our goods to give satisfaction. You waste your dollars if you spend them without finding out what our price is on anything you need.

Some Extraordinary Sav Every Farmer and Stock Raiser

IF EVERY farmer knew how low our prices, e qualities and how complete the stocks and varieties of goods we carry, we would be doing ten times the business we are nd that would be saying a great deal, because so far this season our business has been more than double the volume we received up to . We own large quantities of goods, bought long ago at prices far below the present market. We can show only a few samples on ill find thousands of them shown in "Your Bargain Book," our big 1,000-page catalog which we sent you this Fall. If you did not receive bor to lend you his book.

Monarch Wide Tire Farm Wagon



$55.00

With Box and Seat

We believe this is the best Farm Wagon Bargain on the market today. Read the specifications, remember the 5-year guarantee, and that you can have your money back if you wish, and order now and take your time in trying the wagon. Gear—The bolsters, hounds, spokes, reach and tongue are of selected well seasoned oak. Hounds are square and are braced from the front over a sand bolster and axles. Bolster stakes are braced on both sides and fitted with edge irons and two rings. Axles are 3½x4½ inches, of seasoned hickory, fitted with 3¼x10-inch thimble skeins. Wheels are 30 and 44 inches high, with 3x⅝-inch tires; (4-inch tires can be furnished at extra cost if desired.) Standard wheels with seasoned oak hubs, and hickory spokes and rims. Rims bent and set on by hydraulic pressure. Box, 10½ feet long by 24 inches high, with Comstock pattern endgate, and either 38 or 32 inches wide, depending on track selected. Track, either 4 feet 6 inches or 5 feet. Be sure to state which track is wanted. Box is painted green, and the gear and wheels are a rich red, varnished and striped.

931A1225 Monarch Wide Tire Farm Wagon, complete, with 3x⅝-inch tires. Shpg. wt., 1,000 lbs. Shipped from factory in Indiana....... $55.00

If 4x⅝-inch tires are wanted, add $3.50 to above price.

$8 Special Cooker

from this page of 16-gauge cold iron band Door, cobs or wood iron, with wide Prices include elbow and damper. Shi igan.
919 Weight, 115 lbs.. $8.70
919 Weight, 185 lbs... $11.75

tic Force Feed d Grist Mill $4.15

Hand Mill today from this money back if you want grade mill, heavily and built. Has 16-inch balance able grinding plates. Large Makes first class graham flour Shpg. wt., 40 lbs. $4.15
92 Price ....
ing Plates, per pair..35c

$14 d Cutters

Has large non knives st small hand in. 719 cu 8¼- size, Price with 719 .10 th 10½-in. knives $20.50

WE ISSUE A BIG FREE FARMERS' AND STOCK RAISERS' CATALOG containing 216 pages, articles every good a letter and say " promptly, free and save you at least a and pricing thousands of Just write us a postal or Book," and we will mail it end now—today! We can

Keep the Horses Warm This Winter

You can't afford to buy a stable blanket, a horse blanket or a lap robe until you have seen pages 118 to 121 of our Free Farm Bargain Book. See these examples:

Stable Blankets

32A3900 Good Quality Burlap Stable Blanket, reinforced at breast and under fastener, 2¼-in. girths; 76-in. long; weight, 8 lbs. 95c
32A3902 Same as 32A3900, except half lined with napped jute lining. Price, each $1.30
32A3903 Best Heavy Burlap Stable Blanket, with full napped jute lining, two 1¼-in. girths. Length, 76 in.; weight, 8 pounds. Price, each........................ $1.59
32A3940 Made of heavy tan duck, quilted to a full, heavy felt lining, splendidly trimmed, fancy 2-in. girths; 76 in. long; weight, 8 lbs. A crackerjack value at.. $2.65
32A3930 This Extra Strong Stable Blanket is made of brown duck, full lined with heavy felt, reinforced front, 2-in. girths; length, 76 in. Wt., 8 lbs.... $3.15
32A3931 Same as 32A3930, except 80 in. long instead of 76 in. Price, each........................ $3.30

Horse Blankets

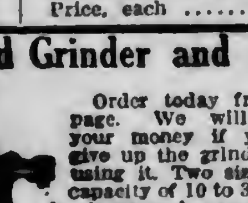
32A3702 A Strong Warm Service Blanket at an exceptionally low price. Brown with blue and white stripes. Size, 76x80 in.; wt., 6 lbs. Price $2.25
32A3704 Same as 32A3702, but size 84x90 in. $3.20
32A3713 Dark tan blanket, with brown and white stripes and border, for work horses. Size, 80x84 in. $2.95
32A3714 Same as 32A3713, but size 84x90 in. 3.36
32A3717 This is the greatest blanket made for hard service. Warm red-brown body, border red and blue. Guards of canvas protect it from wear at shafts and harness; bias woven rib near edge to prevent tearing. Size, 84x90 in.; weight, 8 lbs. Price, each........... $3.85
32A3632 A handsome blanket of extraordinary wearing qualities. It is a dark blue and brown plaid with contrasting stripes of red and green. Woof is 85 per cent wool; balance, long cotton fiber, giving extra strength and unusual wearing qualities. Size, 80x84 in.; Price $5.50
32A3633 Same as 32A3632, but size 84x90 in. 6.35

This Big Shoe Repair Outfit 98c

77A6991 Consists of a combination set of tools with which you can repair your own boots, shoes, rubbers, harness, and mend your own tinware.

The outfit consists of the following: One men's iron last; one boys' iron last; one women's iron last; one child's iron last; one iron stand, suitable for the above lasts; one shoe hammer, one shoe knife, one peg awl haft, one peg awl, one sewing awl haft, one sewing awl, one stabbing awl haft, one stabbing awl, one paper each of ½-inch, ⅝-inch, ¾-inch clinch nails, one paper of ⅝-inch heel nails, four pairs of heel plates, assorted sizes; one bottle of rubber cement, one bottle of leather cement, one ball of shoe thread, 6 harness needles, one ball of wax, one harness and saw clamp, one harness and belt punch, one box of slotted rivets, assorted; one soldering copper and handle, one bar of solder, one box of rosin, one piece of tin. In neat wood box. We will quote a much higher price after January 1. Buy now!
Price, complete outfit 98c

Richland Feed Grinder and Ear Corn Crusher



$20.00

Order today from this page. We will return your money if you will give up the grinder after using it. Two sizes—with 8-in. burrs and a capacity of 10 to 30 bushels an hour; with 10-in. burrs and a capacity of 20 to 60 bushels an hour. Main frame is one casting. Cob breakers are chilled iron spiral concaves bolted to sides and bottom of main frame. Bearings are extra long and lined with best babbitt. Main shaft is 1¼ inches in 8-inch grinder and 1½ inches in 10-inch grinder. Feed is adjustable. Burrs are of a special design and are harder than tempered steel. They will not heat the grain while grinding. We furnish three styles of burrs—fine for shelled corn and small grain, coarse for ear corn or for making feed from shelled corn, and extra coarse for grinding ear corn (either dry or damp) for feed; 8-inch mill requires 3 to 6-horse power and should run 100 revolutions per minute per horse power.

719A1093 With 8-in. burrs, steel legs and steel hopper and 40-lb. balance wheel. Shpg. wt., 250 lbs. Price $20.00
719A1095 With 10-in. burrs, steel legs and hopper and 70-lb. balance wheel. Shpg. wt., 400 lbs Price........................$27.50

Bellmore Hammerless Shotgun

$14.75

12-Gauge Double Barrel

17A6250 Made of armory drop forged tool steel, factory tested. One barrel full choke, other modified choke. Smokeless or black powder. Side lock action, easily taken apart. Safety slide locks triggers, accidental discharge impossible. Walnut stock and fore end. Weight, 7½ to 8 lbs. 12-Gauge, 30, 30 or 32-in barrel. Price.... $14.75

Marsh King Hunting Coat $2.15

17A1858 Made of 10-oz. standard duck; heavy drill lined, olive tan color. Full skirt inside game pocket with entrance at front edges and side seams. Four large outside shell pockets with flaps. Outside breast pocket, also whistle pocket with flap. Fine corduroy collar. Corduroy lined adjustable cuffs. Horn buttons, 36 to 48 chest. Price........$2.15

Leader Single Barrel Shotgun

12-Gauge
$4.39

17A6475 This shotgun is a splendid bargain. Made with armory steel barrel and drop forged frame; much stronger than a cast frame. Case hardened and fully tested at the factory. Barrel is full choke bored, and shoots black or smokeless powder. Has top lever action and low rebounding hammer. All parts carefully fitted. Wt., 6½ lbs. 12-gauge, 30-inch barrel. Price...... $4.39

The Charles Willia res New York City

Some Sample Values from Our Big Hardware Store

Look at these prices—Then see complete lines on pages 818 to 972 in "Your Bargain Book"

Ball Pein Hammer

1A5602 Forged of best crucible steel, correctly tempered. Will not soften or chip. Furnished with selected hickory handles. A rare value in "quality" hammers.

Wt., lbs.	1	1¼	1½	1¾
Price..	50c	53c	56c	61c

Chilled Face Anvils

$2.10 Up

71A5428 Made of best quality cast iron, properly tempered. Face is smooth and accurately machined. This well shaped, sturdy anvil at the price we offer it is a remarkable value.

Wt., lbs.	50	70	100
Price...	$2.10	$2.94	$4.20

Standard Claw Hammer

53c

1A9244 This hammer is forged from crucible steel, perfect in temper. Plain face, adz eye, full polished. Handle of second growth hickory. A hammer that hangs right. Wt., 1 lb. without handle.
Price 53c

Shingling Hatchet

67c p

A Real Bargain

1A9236 Best Quality Shingling Hatchet. Forged crucible steel, oil tempered finish, hickory handle. Most durable cutting edge, ground sharp, ready for use. A real bargain.

Size No. 2	Size No. 3
Bit, 4 inches.	Bit, 4½ in.
Wt., 1 lb. 7 oz. 67c	Wt., 1 lb. 13 oz. 72c

Big Bucksaw Special

1A6655 You will be surprised at the speed and ease with which this saw cuts. When handled properly it will never wedge or choke up. The frame is made of hardwood in its natural finish and will not warp. Fitted with the coarse Champion "M" tooth blade, 30 inches in length by 2¼ inches wide. The rod is heavily tinned to prevent rust. Shpg. wt., 5 lbs. Complete 73c

D Handle Manure Fork 79c Up

71A1868 Made of the finest materials by a company famous for the manufacture of high grade farm implements. Made with 12-inch polished spring tempered oval steel tines. Bent hardwood handles with malleable D heads; capped and strapped ferrules. The fork for the farmer that wants the best. Shipping weight, 3½ pounds.

No. of tines	4	5	6
Price, each..	79c	98c	$1.10

General Repair Forge $6.30

71A4826 Here is a money-saver. A well designed, strong, high grade forge, with good deep hearth, braced legs and half hood. Hearth, 19 inches in diameter. Fan case, 8 inches in diameter. Height to top of hearth, 33 inches. Ideal for farm and general repair work. Will soon pay for itself. Complete, with half hood, as illustrated. Shipping weight, 90 lbs.
Price, each $6.30

Michigan Pattern $1.02

71A6400 Michigan Pattern, with handles. Black oil tempered finish. Rustproof. The ax for the woodsman—low in price and high in quality.

Weight, 3 lbs.; Price.. $1.02
Weight, 4 lbs.; Price.. 1.05
Weight, 4½ lbs.; Price.. 1.09

Maynard Active Range

$33.75

Burns Hard or Soft Coal, Coke or Wood

Made of heavy gauge steel, mixed with copper to resist rust. Lined with asbestos millboard. Bright nickeled trimmings. Furnished with combination duplex grate. An excellent baker and roaster. Oven measures 18x18x12 inches and has large flues on five sides to give an even heat. The door drops down, forming a shelf when oven is open. Fitted with large wooden handle. Has a thermometer in the door. Cooking top is sectional, each section bolted and braced to prevent cracking or warping. The 16-quart reservoir is made of cast iron, lined with white porcelain. Japanned covers, hinged in center. Fire box measures 16½x6¾x6½ in. and works on the hot blast principle. Has a 3-piece ventilated fire back, with air space behind the grate. Front grate is ventilated and the end liners can be removed for burning wood. Has side draft and special pouch coal feed, also front door for feeding wood, and will take pieces 19½ inches long. The large warming closet has roll door. The ash pit has a large pan. Size of main top, 24½x42 in. Height of main top, 31¾ in. Smoke pipe, 7 in. Has six 8-in. lids. Shpg. wt., 325 lbs.

720A1020 Price, complete with nickeled lid lifter, grate shaker and flue scraper $33.75

We can furnish this range without high closet, without reservoir, or without both at lower prices. See page 825 in "Your Bargain Book."

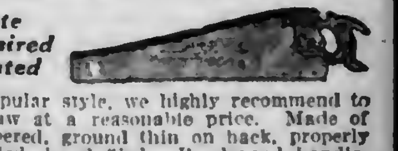
$1.10 for 100 Carriage Bolts

First Quality
Carefully Cut Threads
Full Size Nuts
Round Heads
Square Shoulders
Lengths, 2 to 5 In.

1A6020 A fine assortment for ordinary repair work. This package, made up from regular stock, consists of six each ¼x1½, 1¾, 2, 2½, 3 inches; six each 5/16x1½, 2, 2½, 3, 3½, 4 inches; six each ⅜x2, 2½, 3, 3½ inches; five each ⅜x4, 5 inches. Just the thing for repairs made around the farm. Order one or more packages. Shipping weight, 9 lbs. Per package.................... $1.10

Carpenters' Standard Saws

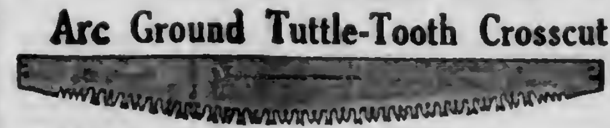
Order by number and state whether hand or rip saw is desired
Give number of points wanted



1A7006 These saws, a most popular style, we highly recommend to anyone who wants a high-grade saw at a reasonable price. Made of high grade steel, scientifically tempered, ground thin on back, properly blocked and hand set. Full bevelled, hand filed. Beechwood handle, nickel plated screws. A saw that is low in price but high in quality.

Hand Saws		Rip Saws		
24-inch 7, 8, 9, 10, 11 or 12 Points	26-inch 6, 7, 8, 9, 10, 11, 12 Points	24-inch 5, 5½ or 6 Points	26-inch 5, 5½ or 6 Points	28-inch 4½, 5, 5½, 6 Points
$1.27	$1.38	$1.27	$1.38	$1.47

Arc Ground Tuttle-Tooth Crosscut Saws

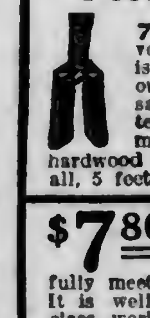


$3.36 Up

71A6200 This arc ground tuttle-tooth crosscut saw is ground six gauges thinner on the back edge than on the tooth edge, insuring rapid cutting and easy running. Order one today. You will find it the best to be found anywhere at the price. The price does not include handles. Please be sure to give us the length desired.

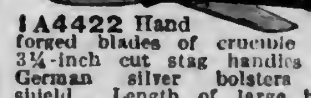
5 Feet Long	5½ Feet Long	6 Feet Long	6½ Feet Long	7 Feet Long
Wt., 7½ lbs.	Wt., 8¾ lbs.	Wt., 9¾ lbs.	Wt., 10¼ lbs.	Wt., 11 lbs.
$3.36	$3.65	$4.00	$4.30	$4.62

Posthole Digger



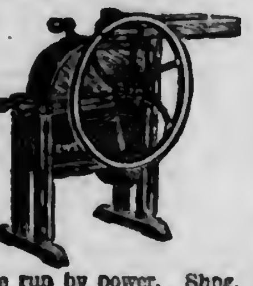
71A2286 This is a very popular pattern. It is strongly made throughout and will give entire satisfaction. Has 9-inch tempered steel blades, malleable shanks and hardwood handles. Height, over all, 5 feet. Price.........94c

Jackknife



1A4422 Hand forged blades of crucible steel, 3¼-inch cut stag handles with German silver bolsters and shield. Length of large blade, open, 6½ inches.
Price, each 62c

$7.80 Round End One-Hole Corn Sheller



This one-hole corn sheller fully meets the needs of the average farmer. It is well made, runs light and does first-class work. Frame work is made of heavy hardwood, strongly bolted together, making every part firm and rigid. Shaft bearings are all bored true to size and on the crank side of the sheller the three bearings are connected so that they cannot get out of line. Shafting is cold rolled steel; balance wheel is large and heavy, insuring even, light running. The feed spout is placed directly over the shelling wheels and wheels grip the ears as soon as they enter sheller. The spring can be adjusted so as to properly handle ears of any size and do clean work. Also with pulley to be run by power. Shpg. wt., 145 lbs. Shipped from New York City.

719A1002 Sheller, complete, with fan and feed table.... $7.80
719A1005 Extra for 8x2-inch clamp pulley to be run by belt 60c

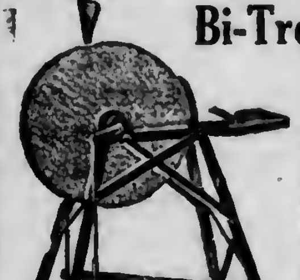
$18.85 Tilting Table Pole Saw Frame

Substantial saw frame is solidly built and rigidly braced. It can be used either for long pole wood or cordwood. Frame is heavy, dry hardwood, thoroughly bolted and braced, making it extra strong and durable. Shafts are 1½-inch cold rolled steel, running in long babbitted bearings. The table is hung on heavy hinges with long easy bearings. The lower shaft carrying balance wheel extends entirely across the frame. Any size blade from 20 to 30-in. can be used. Shpg. wt., 410 lbs. Shipped from New York warehouse or factory in Pennsylvania. Prices do not include saw.

719A1619 Right Hand Frame. Price $18.85
719A1620 Left Hand Frame. Price.................. $18.95

You will find a full assortment of circular saws for this saw frame on page 940 of "Your Bargain Book."

Bi-Treadle Ball Bearing Grindstone $5.25



1A343 Put this remarkable Grindstone on your place for $5.25! Pay more for a grindstone if you wish, but you cannot hope to get one any better than this one. Entire frame is made of rigid steel. The superb even grit grinding stone is mounted on ball bearings and fairly spins around with the slightest pressure. A comfortable seat is built on the frame. The steel frame of course will outlast many wooden ones. The water supply is regulated by funnel shaped tank that feeds steadily and evenly. Journals are ball bearing and are made so that the balls cannot fall out. Shpg. wt., about 100 lbs.

While this is one of the biggest grindstone bargains ever offered to our customers, you will find in "Your Bargain Book," our big 1000-page catalog which you have, just as big bargains in all kinds of tools and machinery all at prices which mean big savings.
Price, each.................................. $5.25

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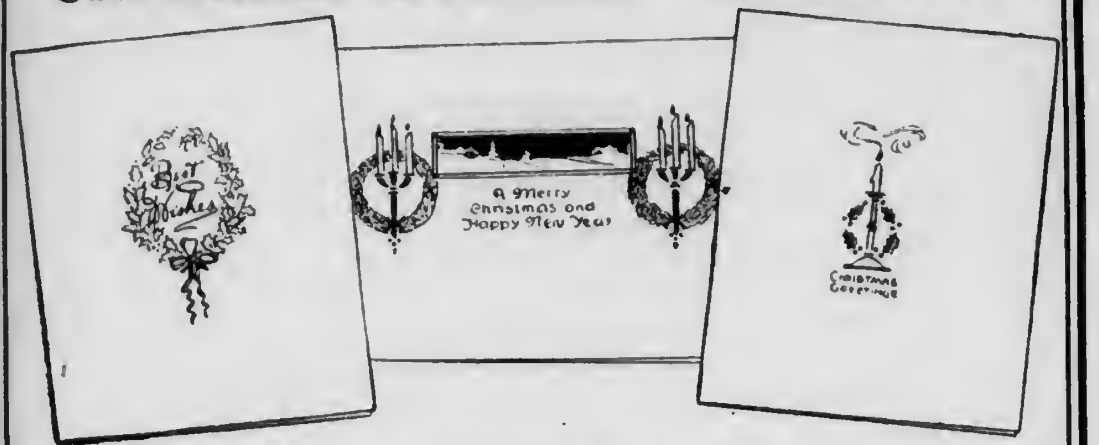
Here is the best wall paper book of the year. Don't spend a cent for wall paper until you have seen these wonderful designs and 103 free samples. Simply say "Send me your free wall paper samples," and we will send them by return mail, free and postpaid.



Christmas Booklets—20 for 25c

We have sold these Booklets for several years and thousands of people all over the country order them each Christmas. Nor is it any wonder when you consider their really remarkable value and artistic beauty, and the fact that you can get twenty neat, artistic, personal Christmas gifts for 25c. All of us have friends whom we wish to remember each Christmas but to whom it is not necessary to send an expensive gift. These little booklets meet such a need exactly. The illustration shows three of the cover designs. These covers are beautifully lithographed in Holiday colors. In each package there are seventeen others equally pretty. Each booklet has four inside pages and the cover; average size about 3 x 4 inches although the size varies with the different designs. On the inside centre page is an appropriate Holiday sentiment and a place to sign your name. Each cover design is different.

The twenty booklets and twenty envelopes with which to mail them will be sent prepaid for 25c. Quantity is limited. Orders must be received at once.

Ask for our large Circular of Christmas Goods

Strawbridge & Clothier, Philadelphia

Best Wishes
A Merry Christmas and Happy New Year
Christmas Greetings

This ALUMINUM SET FREE

OR CHOICE OF OTHER USEFUL PREMIUMS WITH YOUR

1918 IMPERIAL RANGE

A special offer with every Imperial Range—an elegant Pure Aluminum Cooking and Roasting Combination. Seamless and Sanitary—4 pieces. Makes 12 useful kitchen utensils, as illustrated.

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PAY US NO MONEY IN ADVANCE

We take all the risk. Choose any range you want from over a hundred styles. Try it, test it for 30 days before you decide to keep it. Send it back if not satisfied.

FACTORY PRICES—WE PAY FREIGHT TO YOUR HOME TOWN

Choose Your Own Terms. If you decide to keep your Imperial—Cash or Credit. By dealing direct with our factory you pay Manufacturer's Price Only and No Freight.

SAVE MONEY By our new 20th Century methods. 100,000 Imperials now in use. Housewives delighted. IMPERIAL RANGES are made of highest grade materials. 365 DAYS' GUARANTEE. Will no warp or crack. Have the marvelous oven baking of The Colonial Oven modernized—a STONE OVEN BOTTOM—which holds heat like a Fireless Cooker. Great fuel savers and new kind of PERFECT ODOR HOOD. Test all these without risk in your home before buying any range. Write at once for

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Get "No Money Risk" Trial offer, Big Free Premium offer and complete description of Imperial Ranges and their new 1918 improvements—You need this book to intelligently select a range. Write today. A letter or postal will do.

The IMPERIAL STEEL RANGE COMPANY
388 Detroit St.
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YEAR TO PAY
No Money In Advance

This splendid 5-piece bed outfit sent you without any advance payment. Try it for 30 days free. If you decide to keep it, make first small payment in 60 days and and take a year to pay. If not satisfactory, return it at our expense, in 30 days and you will not be out a cent. Order now—direct from this ad. Also get big free bargain catalog.

Complete Outfit—Full size bed, spring, mattress, two pillows. Bed has heavy 1 1-16 inch continuous posts. Seven 5-8 inch upright grouped fillers. Head end is 54 in. and foot end is 34 in. from floor. Choice of White or Gold Bronze, (Vernis Martin) finish. Spring has fabric top fitted on heavy angle iron frame and is supported at ends by resilient steel helical coil springs. Mattress good grade, sanitary cotton top well filled with fibre. Covered with neat stripe ticking. Weighs burlaped, about 50 lbs. Pillows filled with specially blended selected feathers and measure full 18x25 inches. Covered with durable stripe ticking. Shipped from our Chicago Warehouse.

Order direct from this ad

Order by No. 153MA10. Price for Complete Outfit $14.79. $2.49 in 60 days. Balance in 60 day payments of $2.46 each.

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Great 454 page Book shows thousands of amazing bargains in furniture, stoves, ranges, rugs, carpets, silverware, jewelry, sewing machines, engines, separators, paints, roofing and other farm necessities. 30 days free trial on anything you want—and a year to pay. No C. O. D. No deposit. Send post card for this big book.

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Household

THE CHILD WITHIN

Do You Train Mind As Well As Body

Cookery Class in a Consolidated Rural School

One of the greatest institutions that has come to us out of twentieth century enlightenment has been the Parent-Teacher Association. As the name indicates, this is an organization in which the two greatest molders of the child mind come together, and thru careful consideration they try to use all abilities in the most constructive way.

With few exceptions this movement has not reached the rural schools. I certainly hope that when this is brought to your schools in your particular community that you will accept the movement kindly and do all in your power to support the organizer and the leaders of your school district in getting together for the best welfare of your children.

It was my pleasure to attend a meeting of a well-organized Parent-Teacher Association recently. After the routine business the meeting was addressed by a speaker who gave a lecture following charts which are put out by the National Child Welfare Exhibit. The first thing to be used in the rearing of children is a strong dose of common sense. It seems to me that rural parents, as a rule, have a large amount of this commodity and use it quite freely with their children. However, this common sense must be diluted at times with a sympathetic consideration for when "we were young ourselves". In spite of common sense, we often drift into the line of least resistance in disciplining our children. This savors of the "do as you please" method, which is certainly disastrous.

These charts began with the proper method of eating. The habit of bolting our food is thoroly condemned. The food must, of course, be wholesome. The meal must be well balanced. The child should be taught to take a small portion of everything and leave nothing on his plate to be wasted. More of the coarse foods should be eaten, and nothing between meals unless a child is hungry enough to eat plain bread and butter, or an apple, and certainly nothing within an hour and a half before meals.

A few things are catalogued that should not be eaten, such as hot dough, coffee and fried food. The hot dough is not masticated well, and fried foods are very hard to digest. The parents should set the example of not drinking coffee or tea. The sweets advised are dates, figs, honey and maple sugar instead of the ordinary cheap candy.

All parents and teachers should consider the position of the light for reading, that it be at the left side instead of in front of the child. The seats and desks at school should fit the child instead of trying to make the child fit an improper seat. Care should be given to the teeth, the feet and correct breathing, as well as proper ventilation for the sleeping rooms. No child can get along well in school if his little body is not housed properly. All sorts of care should be taken to prevent communicable diseases.

And thus the speaker and the charts went on at great length. But in the whole subject, not one mention was made of the little one's mind, or that God had given the child a soul. The pendulum seems to have swung so far that we almost forget that the real child is the little mind that we teach, the intelligence that unfolds under our guidance. There are two things that walk side by side in child welfare. One is the clean body and the other the clean mind. As my children go out into the world and meet others, and must choose their own playmates, this is the yard stick that I have given them by which to measure their companions. They may play with any children that are clean without. By that I mean reasonably clean hands, face and clothing. And they may play with those children until they discover that they are not clean within. By that I mean a clean mind which is indicated by the language they use.

I am very sure that if my children only choose those playmates who are clean within and without, they will never be contaminated by their associations. In our stress to take care of the child in his physical needs, let us not forget the mind—the real child within.—Eugenia G. Benn.

A FOOD CONSERVING COMPANY LUNCH

I have been reading Mrs. Anderson's article in September 29th issue of Pennsylvania Farmer on community waste of food at picnic dinners. In our town we are as saving as possible without being stingy, and yet serve good palatable dinners at little cost. We have a Red Cross auxiliary that meets one-half day every week, preferably Thursday afternoon. Since the days have gotten shorter we plan to take our own individual lunch and go in the morning; the hostess furnishes coffee and we spend the day sewing. As we meet at the homes of those interested, sewing machines are moved in from the nearest neighbors so three at least are kept quite busy. Once a month we combine the work with our Ladies' Aid Society and serve dinner to all.

At a recent meeting at my home the following dinner was served and it was such a meal as President Wilson would have considered an honor, we are sure. It comprised: White and brown bread, escalloped potatoes, succotash, spaghetti with tomato sauce two ways, cold cabbage two ways, cottage cheese, jelly, butter, coffee and fresh fruit. No cake or pie or meat. Everybody pronounced it a decided success.—Mrs. E. A. K., Lackawanna Co., Pa.

Editor's Comment.—Yes, that was an abundance, and for the most part well selected. You did well to conserve wheat flour by serving no cake or pie; the fresh fruit was better dessert anyway. Glad to note also that you used cottage cheese as a meat substitute (cottage cheese does practically the same work for our bodies as lean meat, i.e., makes cell tissue to build and repair muscles). The adult's daily requirement of cell repair food (which is called protein) is one-fifth to one-fourth of the total food required, so your cottage cheese furnished the right proportion. It would have been waste to serve both cottage cheese and meat in the same amount.

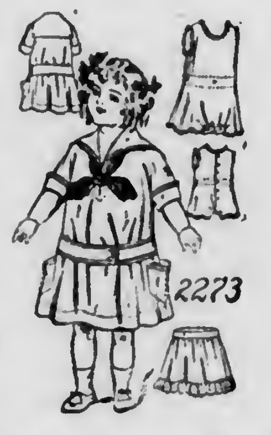
Sometimes one sees big plates of cottage cheese and big platterfuls of meat on the same table; better use smaller portions of each if one wants the variety, or else only the one. These are both more expensive than foods furnishing starch such as the grains and vegetables, which are, therefore, less expensive for furnishing heat and energy than meat and cheese. However, the cereals and vegetables do not furnish the cell repair food substances in sufficiently large proportion to the bulk which we can eat of them, and most vegetable and grain proteins are not so readily assimilated by the human body as are the animal proteins, as found in lean meat, eggs and cheese, so it is more economical to serve and eat just about the body's required amount of these more expensive and less abundant foods, meat, eggs and cheese, and to get our fuel-energy from vegetables, grains and fruits. Dry beans, however, and particularly soybeans are a cheap and fairly equivalent substitute for meat, eggs and cheese. Soybeans are especially rich in cell-building food (proteins), also in fat, so they make a good substitute for pork or fat meat of any kind. How many of you have cooked and served soybeans? Let's hear from you.

Just one more comment. In serving potatoes, spaghetti, succotash and wheat bread, you are afforded a very liberal starch or fuel-energy ration, perhaps more than necessary, except as you got plenty of appetizing variety that way. Your cold cabbage and the corn and green beans in your succotash afforded the desirable succulent food and fiber for bulk or roughage, which roughage the human digestive system needs just the same as livestock does. There was a little protein in the spaghetti, afforded by the gluten in the hard durum wheat of which spaghetti is made, also a very little gluten in the wheat bread. Gluten is one vegetable protein that has been found about as equally well assimilated by the human system as the animal proteins like casein in milk curd and albumins in milk and meat, etc.

It is very interesting, isn't it, to know something about what our different foods do for our bodies? How many of our readers, we wonder, would like to have more of this sort of discussion in Pennsylvania Farmer household columns. Let's hear from you on this point. Ask questions and we will have them discussed by competent authorities.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.



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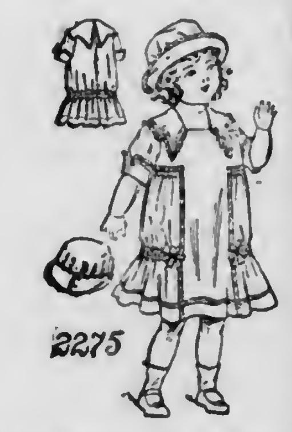


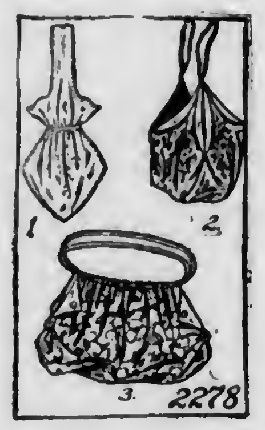
2275

2273.—Dainty Set for Dolly.—The pattern, which includes all styles illustrated, is cut in 6 sizes: For dolls 16, 18, 20, 22, 24 and 26 inches in length. The dress requires 1¼ yards of 27-inch material; the petticoat ½ yard, and the combination ⅝ yard, for an 18-inch doll. Price of pattern, 10 cents.

2275.—Dress and Hat for Miss Dolly.—The pattern is cut in 6 sizes: For dolls 16, 18, 20, 22, 24 and 26 inches in length. Size 24 will require 1½ yards of 27-inch material for the dress, and ⅝ yard for the hat. Price, 10 cents.

2278.—Set of Pretty Bags.—Pattern supplies each of the three styles illustrated and is cut in one size. Each one requires 1 yard of 27-inch material. Price 10 cents.

2245. — Ladies' Slip. — Cut in 4 sizes: Small, 32-34 (inches bust measure); medium, 36-38; large, 40-42; and extra large, 44-46. Medium size requires 4½ yards of 36-inch material. Price, 10 cents.



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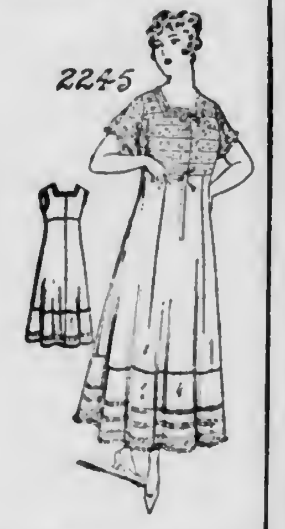
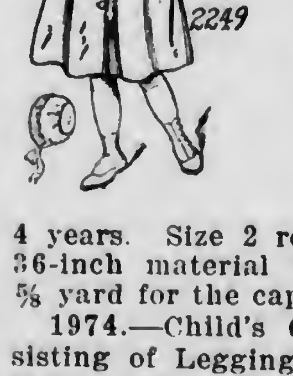


2245

2249. — Simple Coat and Cap. — 2249.—The pattern includes coat and cap. It is cut in 4 sizes: 1, 2, 3 and 4 years. Size 2 requires 2 yards of 36-inch material for the coat, and ⅝ yard for the cap. Price, 10 cents.

1974.—Child's Outdoor Set, Consisting of Leggings and Coat.—Pattern is cut in 4 sizes: 2, 3, 4 and 5 years. It requires 3¼ yards of 44-inch material for a 4-year size. Price, 10 cents.



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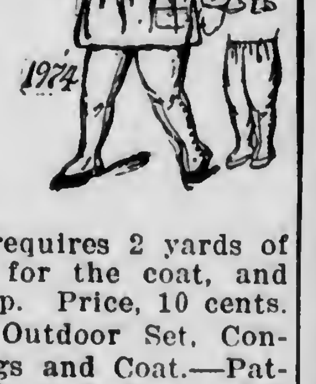


1974

Most Flour Value For Your Money

The cheapest flour is not always the most economical.

When you buy flour you buy food value—not just flour. Therefore, economy in flour buying consists in getting the most food value for your money.

The food value of each manufacturer's best finished flour depends not alone upon the kind of wheat from which it is ground. It depends, rather, upon how skillfully and to what extent he separates it from the cheaper and less nourishing lower grades.

Pillsbury's Best flour is milled to a definite standard which produces the most food value for the consumer's money. This standard has been determined in the light of nearly fifty years milling experience. It is rigidly maintained—day after day, year after year. Every sack of Pillsbury's Best flour must conform to it.

That is why bread made with Pillsbury's Best is both wholesome and economical. That is why your money cannot buy a better flour than Pillsbury's Best, anywhere—at any price. To pay more is wasteful; to pay less is not economy.

The Flour Question Settled

Because Pillsbury's Best

Pillsbury Flour Mills Company, Minneapolis, Minn.

Horticulture

PROTECT THE FLOWERS AGAINST WINTER WEATHER

At this season many inquiries are made regarding the protection of flowering plants and shrubs during the winter. Such flowers as peonies and hollyhocks will come up again the following year if they are properly protected during the winter, while others like cannas and dahlias, which are more accustomed to warm climes, must have their roots or bulbs dug up and stored in a cellar. The Department's specialists give the following suggestions for "putting the garden to bed":

Hardy Perennials

Cover hardy perennials, such as peonies, larkspur, hollyhocks, columbines, iris, platycodons, and perennial poppies, with a good coating of manure or other litter to a depth of 3 or 4 inches. In more southern localities this will hold the frost in the ground and keep the plant from alternately freezing and thawing; in more northern regions the manure will protect the plant from freezing to a depth that will cut off its water supply.

Cannas and Dahlias

As soon as the tops of cannas, dahlias, gladiolus, caladiums and similar plants are killed by frost, dig up the roots or bulbs and store them in a cellar where the temperature will remain at 55 degrees, and should never go below 50 or above 60 degrees. Do not shake any more earth from the clumps of cannas and dahlias than is necessary in removing them from the ground. Place the plants on racks or in slat boxes so the air may circulate freely thru them. No frost must reach the roots nor must they become too warm or dry.

Hydrangeas

Hydrangeas in the south will last thru the winter out-of-doors, if properly cared for. The tops should be protected with straw or brush. This may be held in place about the bushes with a little manure or stones. The flower buds of the hydrangea form in the fall, and this cover will keep them from winter killing while shielding the bush from winds and sun. In the North hydrangeas must be taken up, planted in tubs and placed in the cellar. This is generally true of latitudes north of Philadelphia.

The shrub known as brugmansia, also called thorn apple, should be treated as the hydrangea, but they are not hardy nearly so far north.

As a rule shrubs should not be trimmed in the fall. This process is timely immediately after the blooming period, if this is in the spring, as in the case of the snowball. If the shrubs bloom in the fall, as do some hydrangeas, the rose of Sharon, and some lilacs, they should not be cut directly after blooming, but in the spring of the following year. Lilacs, snowballs, and mock orange should be let alone during the winter, being neither trimmed nor covered with straw and manure.

Roses

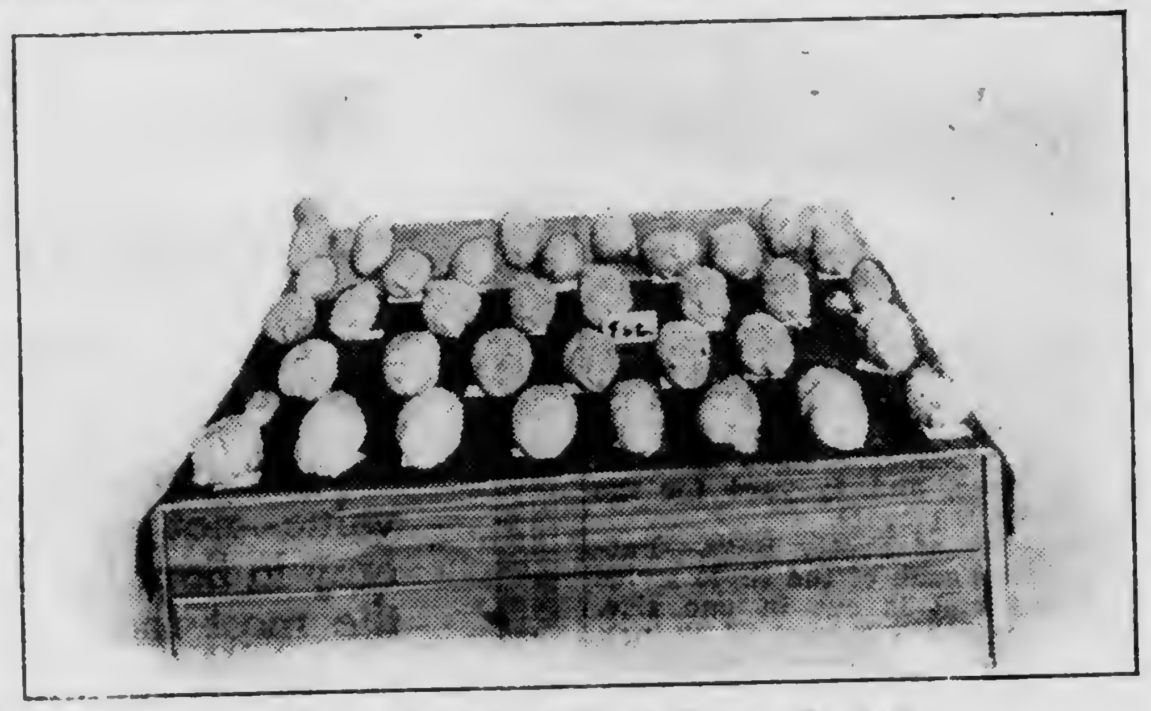
Almost all kinds of roses are hardy in the vicinities of Washington, D. C., and St. Louis and to the south of a line drawn between these points; northward, local conditions influence the successful cultivation of certain varieties. Some roses, as the briar and rugosa, need no protection, but other varieties, such as the hybrid-perpetuals, teas, and hybrid-teas, need special care, particularly north of the fortieth parallel. Teas and hybrid-teas hardly succeed in Chicago, altho the hybrid-perpetuals grow as far north as Canada. All these classes do well on Long Island and in Boston near the sea when proper care is given them. These varieties in the vicinity of Washington need merely a little manure on the ground to prevent alternate freezing and thawing. Farther north, however, they should be treated as follows:

Cut the tops to within 30 inches of the ground. Cover the roots with coarse manure or leaves or similar litter. Hold this in place by evergreen boughs which also act as a protection.

Mounds of earth about six or eight inches in hight should be drawn about the base of the rose bushes to keep them from mice. As an added protection against mice, permit the ground to freeze slightly before winter protection is supplied. In fact, roses should not be protected until after the first light freeze, which may be expected in Washington, D. C., about the first of December, but earlier farther north.

Climbing Roses

In the latitude of Philadelphia and farther south climbing roses usually need no protection during the winter unless they are a particularly tender variety. Farther north these roses need protection similar to that given to the tea and hybrid tea roses.



Prize Specimens in Lititz Potato Contest

Where it is possible to do so, remove climbing roses from their supports, and cover the branches with a little dirt. A little fall trimming might be desirable to lessen the space occupied by the branches on the ground. Such side branches as are not to be needed for next season's blooming may be cut off. Such cutting off and shortening of the ends as would otherwise be done in the spring may be done in the fall before covering, merely for convenience.

SPRAY IN FALL FOR PEACH LEAF CURL

Fall spraying for peach leaf curl is now regarded as reliable and effective according to the plant disease men at Cornell. They say that recent observations made in commercial orchards of New York show that in many respects fall spraying is more effective than spring spraying.

In order to free a peach orchard from leaf curl, spraying must be done annually. The fungus causing the curl has the habit of returning to an orchard even when once thoroly driven out. It attacks the buds just as they begin to swell in the spring. A warm day in March may start the fungus again and after this sprays are not effective. This was the case in 1917 and many growers found they had sprayed too late to control the disease. On the other hand fall sprayed orchards showed little or no traces of the disease.

There is a longer period in the fall than in spring during which sprays may be applied. Trees can be sprayed any time after the leaves have fallen, even in winter, the limiting factor being the effect of cold on spray apparatus. There is less pressure of work in the fall and spraying done then is likely to be more thoro. Considering the efficiency and time factors, the state college says that fall spraying should be cheaper than spring spraying. The orchard soil is in better condition for pulling the spray rig in the fall. Fall sprayed orchards are never sprayed too late as is sometimes the case of spring sprayed orchards. Where scale is present, the college recommends lime sulphur 1-8; otherwise the 1-15 mixture is dependable. Copper sulphate 2 pounds to 50 gallons of water, or Bordeaux mixture 3-3-50, is also satisfactory.

A STORY OF BIG POTATOES

During the summer, Frank Rader offered a box of fine cigars to the farmer or raiser thereof who would bring to his store at Lititz, Pa., the largest potato grown this season. A number of growers from Lititz and vicinity contributed specimens to the contest, weighing from fifteen ounces to one pound and seven ounces, which latter took the prize. It was entered by Guy Buch, who selected it from the harvest of J. Clayton Brubaker on his farm, one mile north of town. The Jumbo of the bunch was of the "Early Sunrise" variety.

The following persons entered potatoes in the contest, the weights being given:

J. C. Brubaker (Gay Buch), 1 lb., 7 oz., first prize; M. Brubaker, 1 lb., 1½ oz.; E. Miller, 1 lb., 4 oz.; C. M. Althouse, 1 lb., 6 oz.; John Frey, 1 lb., 2 oz.; H. S. Meiskey, 1 lb.; Chas. Bahn, 1 lb., 1 oz.; Amos Hershey, 1 lb., 3 oz.; J. D. Karr, 1 lb., 1 oz.; E Keller, 1 lb., 4 oz.; A. R. Keller, 1 lb., 2 oz.; J. Fassnacht, 1 lb., 5 oz.; Philip Frankfort, 1 lb., 1½ oz.; H. W. Buchner, 1 lb., 2½ oz.; J. H. Breimer, 1 lb.; H. Kramer, 1 lb., 1 oz.; B. B. Snavely, 1 lb., 5 oz.; Walter Spangler, 15½ oz.; Simon Bradley, 1 lb., 5 oz.; Amos Brubaker, 1 lb.; A. R. Keller, 1 lb.

Since the prize was awarded Hayden Lutz, of Harrisburg, sent a specimen that weighed 1 lb., 11 oz.

H. S. Meiskey exhibited a hill of potatoes consisting of six fine tubers that weighed 2 lbs., 14 oz.

Mr. Rader some years ago raised from one potato planted in a hill, six pounds and 14 ounces of potatoes. When he told this to the men who gather at his place of business and discuss current topics some of them expressed doubts as they do some of the fish stories that are related. To set their doubts at rest he hit upon the contest plan to secure choice specimens of the vegetable that, since the war, has become many fold more famous. Next year he proposes to plant one dozen of them one to a hill and promises to get a yield of not less than a bushel, which would be only five pounds to the hill. He has his ideas on how potatoes should be planted and cultivated and argues with consistent logic that potatoes reproduce their kind, and that if you want to raise fine potatoes it is necessary to plant fine ones and that you must put enough of the tuber under the ground to give the new plant sufficient nourishment to get a good start and grow.—J. G. Zook.

FALL PLOWING OF CLAY SOIL FOR GARDEN

The soil in my garden is a very heavy limestone clay which puddles on the least provocation and bakes whenever it gets a chance. Moreover it had been soil-robbed for years before I took charge of it and had been further maltreated by builders who hid all the broken bricks, refuse mortar and chips they dared shortly before I moved on the property. Last of all the soil from the cellar excavation had been piled up and left until late autumn before the landlord would grade it. But I wanted to have a good garden this year so as soon as the grading was done I had the area plowed and left rough in the furrows all winter.

The results were that when spring opened the land dried out much more quickly than similar soil in adjacent gardens; I did not have to wait a minute for plowing or the subsequent harrowing; the soil broke down at once with the slightest touch and worked up into a very passable seed bed; moreover it was drier and warmer than land spring plowed and started the seed sown much sooner. The consquence of this is that my garden, while not as good as others I have had on more favorable soil, was much better than passable, in spite of the very rainy season. Indeed, had it not been for the autumn plowing I should not have been able to get so early a start.

Timely Fruit Notes

By Dr. J. P. STEWART

Potato Scab Infection

"I would like to know what to do with a piece of ground that is infected with the potato scab. I planted some corn and potatoes and before planting the potatoes, treated them with corrosive sublimate, but it did not help them any, as the potatoes are now scabby."—O. S. R., Dauphin County, Pa.

No system of soil management has proved especially valuable in the management of land infected with potato scab, altho the difficulty may be relieved partly, if proper measures are followed. Of these the following measures are most important:

First, avoid fertilizing materials such as wood ashes, lime, stable manure, etc., which increase the alkalinity of the soil or favor the growth of fungus. Acid phosphate, land plaster and ammonium sulphate, on the other hand, tend to decrease scab by increasing the acidity of the soil.

Second, a three-year rotation without a susceptible crop often largely reduces the scab, altho the disease may not be entirely exterminated after five or even ten years without susceptible crops. Beets, turnips, cabbage and similar plants are susceptible crops and hence must be avoided in such a rotation. The plowing under of large quantities of green cover-crops, such as rye, also tends to reduce the scab infection.

The use of resistant varieties of potatoes, in addition to thoro treatment of the seed, is advisable if potatoes must be raised on the scab-infected soil. According to the Maryland Station, the following varieties possess some resistance to scab: Cambridge Russet, Carmen No. 3, American Giant, Sir Walter Raleigh, Irish Cobbler, Scab Proof, and Aurora.

Rye in an Orchard

"I have an orchard which is very poor. I put a good coat of manure on it and have just finished plowing it. I intended to plant rye and seed it, but some advise me to put some cultivating crop on it. The orchard is about twenty years old."—A. S., Luzerne County.

Replying to this inquiry would say that rye is all right in an orchard if it is simply used as a cover-crop over winter and is plowed under again in the spring, preferably not later than the time it is starting to head out. If there is still time for the rye to get a satisfactory start before freezing weather, there will be no objection to sowing it now. It should be sown at the rate of about 1½ bushels to the acre.

Root Infected with Crown Gall

If you wish to secure some financial return from the crop used, this course would still be advisable so far as the rye is concerned, but the rye should be plowed under soon enough to permit the other crop to be planted. The other crop should be a tilled crop, such as potatoes, buckwheat, beans, or most any kind of vegetables.

Fruit-tree Bark-beetles and Their Control

"Have a few apricot trees that are badly infested with a small borer. The bark is cracking with gum exuding.. The leaves wither in extreme infestation. The borer makes a small hole. Is this the same as peach borer? What is the remedy, if any?"—W. H. D., Ohio.

This difficulty is undoubtedly due to the fruit-tree bark-beetle. The first and most important means of control is the elimination of breeding places. These insects develop in important numbers only in unhealthy wood, and where there is an

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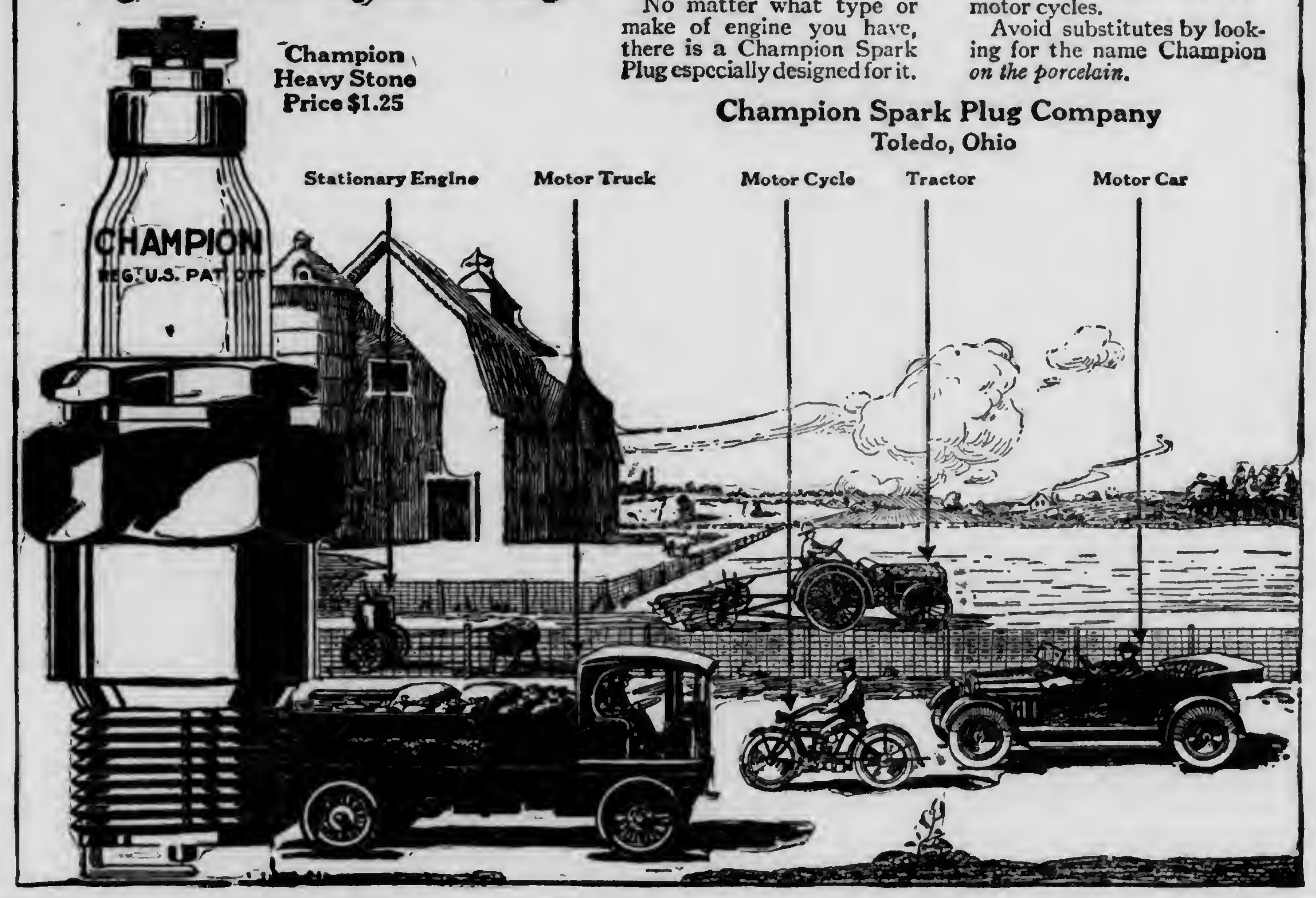

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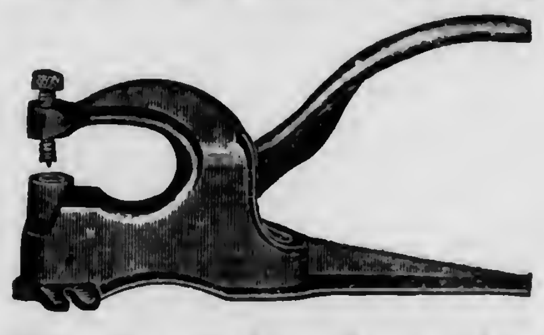

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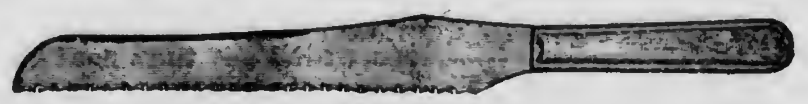

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abundance of such wood they may become numerous enough to affect the healthy trees. The most common breeding places are in trees that are dying from neglect, injury to roots or tree bases, injury by sun scald, and especially in trees whose branches have been broken down by storm or loads of fruit and still allowed to adhere by part of the wood and bark. Trees which are already infested may often be saved by cutting them back fairly severely and then restoring their vigor by cultivation and fertilization or by liberal dressings of barnyard manure, or a commercial fertilizer carrying about 6 percent nitrogen and 10 percent of phosphoric acid, P2O5. Five pounds to the tree of this application would not be too much, in the case of apricots. After this, a thick coating of whitewash should be applied all over the tree and should be repeated often enough to maintain an unbroken coating during the entire season. The addition of a handful of table salt to each pail of whitewash will often be beneficial. The whitewash will not kill the insects already in the tree but if a solid coating is maintained thruout the season it will prevent the laying of additional eggs and will enable the trees, with the aid of soil treatment mentioned, to recover their vigor and thus overcome the injury.

LONG ISLANDERS SOW SPINACH IN JANUARY

Generally speaking, January is not a month when men plant seed outdoors. However, there is one section in the State of New York where planting outdoors is practiced during this month. This depends largely on the condition of the weather but even with an inch of snow on the ground, this would not check planting. There are near Elmhurst and the Hoffman Boulevard quite a few gardeners who sow spinach broadcast on their ground during the month of January. The spinach seed is generally placed on ground which has been prepared in the fall for seed work. The seed has a tendency to work into this soil by aid of snow, and the rising and falling of the ground due to the frost. By planting at this time, a very early crop of spinach is secured as the seed will germinate even at a very low temperature, and generally be away ahead of seed planted in the regular way with seed drills, early in the spring.

The same condition of affairs would not apply on soils in Western New York, due to the fact that the soil there is not as well drained as that on Long Island, nor are the conditions there as favorable for work as found on Long Island.—A. E. Wilkinson.

CATALOGS AND NEW IDEAS

With me, there is no better time than the month of January for a careful study of the new seed catalogs which are then sent out. Altho there is considerable to do during the month of January, there is an opportunity at night for such work. At this time, a comparative study of the seed put out by different houses can be carried on, and one's selection for the spring planting can be made. It is always advisable to find out something about the newer sorts, and the selection of some of the most promising, which appear to be applicable to local conditions should be made. Each year I have found some of the varieties which are successful in one locality, to be of little value here. I remember a bean sent on from Oregon from one of the large seed houses there, which was praised to the skies as a very tender, thrifty, bean but which grown under my conditions was the most worthless, stringy, tough bean that I ever grew. I was only glad that I made a trial in a very small way, instead of devoting considerable land to the venture. At the same time, I have tested out a novelty radish which has been superior to any other for quick maturing quality.

The new machinery also is worth investigating. Men are thinking much of the horseless cultivator. A study of the catalogs and a view of the machine would show a man whether or not these machines were practical under his conditions.

This last year, the question of onion weeders came up. I have had much experience with these machines but had selected a certain type in my mind. When I came to buy, I looked them over rather carefully but kept to my selection. I found that on 25 acres of the land available this year these machines were practical; on the remainder of the land they were not useful at all. The same may be said of many other tools.—A. E. W.

SAVING CABBAGE FOR WINTER

Cabbage may be very easily stored for winter use provided it is in the proper condition at storage time. The extension division of the New Jersey Agricultural College recommends that cabbage be stored during the early part of November. As heads that are exceedingly hard are the first to be injured by the light freezes which occur before this time, it may be well to go over the field of growing cabbage in the last part of October and pull up the very hard heads. Turn the plant completely upside down right where it grew, and it will keep in good condition until the weather is cold enough to store cabbage with safety. To prevent cabbage from heating in storage it should never be placed in large piles. It is usually placed nearly upside down in a trench, made with the aid of a two-horse plow, 6 inches deep and 2 feet wide. The heads are packed close together in a single layer with the leaves tucked in close around the head. A 6-inch layer of hay is spread over the trench and anchored with a little soil to prevent the cabbage from wilting or freezing until colder weather, when a 6-inch layer of dirt is added, leaving a narrow strip of the hay exposed to provide ventilation. A little freezing in the trench is not harmful.

SPRAY CHECKS BLACK SPOT ON ROSE BUSHES

Spraying rose bushes in the fall with Bordeaux mixture will check black spot disease, according to botanists of the Ohio Experiment Station. Burning affected leaves will kill the fungus, which otherwise would be carried over winter.

Large, irregular black spots on the upper side of rose leaves show the presence of this disease. Bushy varieties are attacked most seriously. Diseased leaves turn yellow and drop prematurely.

Bordeaux mixture is made with two tablespoonfuls of copper sulphate and a half-cup of hydrated lime to a gallon of water. The materials must first be dissolved separately and then mixed.

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NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

SYNOPSIS OF PREVIOUS CHAPTERS

Henry de Spain is the new General Manager of the stage line running between the rich mines of the Spanish Sinks to Sleepy Cat. He finds most of the trouble annoying the stage line originates at a small crossing known as Calabasas, the center of which is Calabasas Inn. Here the followers of the Morgans, of Morgans' Gap, gather for such mischief as they find to do. It was here that one of the Morgan men, named Sassoon, assaulted one of the stage guards, for which he is wanted by the sheriff. The sheriff failing, de Spain decides to arrest Sassoon himself. He rides into Morgan's Gap in the morning and takes Sassoon from his bed. He is nearly out of the Gap when he is met and halted by Nan Morgan, a niece of the leader of the Morgan gang.

CHAPTER VI (Continued.)

Nan watched de Spain carefully as he and Sassoon approached her.

"Wait a moment, Sassoon. Where are you going?" she demanded. Sassoon hitched with one hand at his trousers band. He inclined his head sulkily toward his companion. "Starting a man on the trail for Sleepy Cat."

"Stop," she exclaimed sharply, for de Spain, pushing his own horse ahead, had managed without being observed to kick Sassoon's horse in the flank, and the two were passing. Sassoon at the resolute summons stopped. De Spain could do no less; both men, halting, faced their suspicious inquisitor. She scrutinized de Spain keenly. "What is this man doing in the Gap?"

"He came up from Thief River last night," answered Sassoon monotonously.

"What is he doing here with you?" persisted Nan.

"He's a cousin of John Rebstock's from Williams Cache," continued Sassoon. The yarn would have sounded decently well in the circumstances for which it was intended, but in the searching gaze of the eyes now confronting and clearly recognizing him, it sounded so grotesque that de Spain would fully as lief have been sitting between his horse's legs as astride his back.

"That's not true, Sassoon," said his relentless questioner. Her tone and the expression of her face boded no friendliness for either of the two she had intercepted.

De Spain had recovered his wits. "You're right," he interposed without an instant's hesitation. "It isn't true. But that's not his fault; he is under arrest, and is telling you what I told him to tell you. I came in here this morning to take Sassoon to Sleepy Cat. He is a prisoner, wanted for cutting up one of our stage-guards."

Nan, coldly skeptical, eyed de Spain. "And do you try to tell me"—she pointed to Sassoon's unbound hands—"that he is riding out of here a free man, to go to jail?"

"I do tell you exactly that. He is my prisoner—"

"I don't believe either of you," declared Nan scornfully. "You are planning something underhand together."

De Spain laughed coolly. "We've planned that much together, but not, I assure you, with his consent."

"I don't believe your stories at all," she declared firmly.

De Spain flushed. The irritation and the serious danger bore in on him. "If you don't believe me it's not my fault," he retorted. "I've told you the truth. Ride on, Sassoon."

He spoke angrily, but this in no wise daunted Nan. She wheeled her horse directly in front of them. "Don't you stir, Sassoon," she commanded, "until I call Uncle Duke."

De Spain spurred straight at her; their horses collided, and his knee touched hers in the saddle. "I'm going to take this man out of here," he announced in a tone she never had heard before from a man. "I've no time to talk. Go call your uncle if you like. We must pass."

"You shan't pass a step!"

With the quick words of defiance the two glared at each other. De Spain was taken aback. He had expected no more than a war of words—a few screams at the most. Nan's face turned white, but there was no symptom even of a whimper. He noticed her quick breathing, and felt, instinctively, the restrained gesture of her right hand as it started back to her side. The move steadied him. "One question," he said bluntly, "are you armed?"

She hated even to answer, and met his searching gaze resentfully, but something in his tone and manner wrung a reply. "I can defend myself," she exclaimed angrily.

De Spain raised his right hand from his thigh to the pommel of his saddle. The slight gesture was eloquent of his surrender of the issue of force. "I can't go into a shooting match with you about this cur. If you call your uncle there will be bloodshed—unless you drop me off my horse right here and now before he appears. All I ask you is this: Is this kind of a cutthroat worth that? If you shoot me, my whole posse from Sleepy Cat is right below us in the aspens. Some of your own people will be killed in a general fight. If you want to shoot me, shoot—you can have the match all to yourself. If you don't, let us go by. And if I've told you one word that isn't true, call me back to this spot any time you like, and I'll come at your call, and answer for it."

His words and his manner confounded her for a moment. She could not at once make an answer, for she could not decide what to say. Then, of a sudden, she was robbed of her chance to answer. From down the trail came a yell like a shot. The clatter of hoofs rang out, and men on horses dashed from the entrance of the Gap toward them. De Spain could not make them out distinctly, but he knew Lefever's yell, and pointed. "There they are," he exlaimed hurriedly. "There is the whole posse. They are coming." A shot, followed closely by a second, rang out from below. "Go," he cried to Nan. "There will be shooting here that I can't stop." He slapped Sassoon's pony viciously with his hand, yelled loud in answer to Lefever, and before the startled girl could collect herself, de Spain, crouching in his saddle, as a fusillade cracked from Lefever's and Scott's revolvers, urged Sassoon's horse around Nan's, kicked it violently, spurred past her himself, and was away. White with consternation and anger, she steadied herself and looked after the fleeing pair. Then whirling in her saddle, she ran her pony back to the ranch-house to give the alarm.

Yelling like half a dozen men, Lefever and Scott, as de Spain and his prisoner dashed toward them, separated, let the pair pass, and spurred in behind to cover the flight and confront any pursuers. None at the moment threatened, but no words were exchanged until the whole party, riding fast, were well past El Capitan and out of the Gap. For some unexpressed reason—so strong is the influence of tradition and reputation—no one of the three coveted a close encounter with the Morgans within its walls.

"Its the long heels for it now, boys," cried de Spain. His companions closed up again.

"Save your horses," cautioned Scott, between strides. "Its a good ways home."

"Make for Calabasas," shouted Lefever.

"No," yelled Scott. "They would stand us a siege at Calabasas. While the trail is open make for the railroad."

A great globe of dazzling gold burst into the east above the distant hills. But the glory of the sunrise called forth no admiration from the three men hurrying a fourth urgently along the Sleepy Cat trail. Between breaths de Spain explained his awkward meeting with Nan, and of the strait he was in when Lefever's strong lungs enabled him to get away unscratched. But for a gunman a narrow squeak is as good as a wide one, and no one found fault with the situation. They had the advantage—the only question was whether they could hold it. And while they continued to cast anxious glances behind, Scott's Indian eyes first perceived signs on the horizon that marked their pursuit.

"No matter," declared Lefever. "This is a little fast for a fat man, anyway." He was not averse, either, to the prospect of a long-range exchange with the fighting mountaineers. All drew rein a little. "Suppose I cover the rear till we see what this is," suggested Lefever, limbering up as the other two looked back. "Push ahead with Sassoon. These fellows won't follow far."

"Don't be sure about that," muttered Scott. "Duke and Gale have got the best horses in the mountains, and they'd rather fight than eat. There they come now."

Dashing across a plain they themselves had just crossed, they could see three horsemen in hot chase. The pursued men rode carefully, and, scanning the ground everywhere ahead and behind, de Spain, Scott and Lefever awaited the moment when their pursuers would show their hand. Scott was on the west of the line, and nearest the enemy.

"Who are they, Bob?" yelled Lefever.

Scott scrutinized the pursuers carefully. "One," he called back, "that big fellow on the right, is Deaf Sandusky, sure. Harvey Logan, likely, the middle man. The other I can't make out. Look!" he exclaimed, pointing to the foothills on their distant left. Two men, riding out almost abreast of them, were running their horses for a small canyon thru which the trail led two miles ahead.

"Some riding," cried Scott, watching the newcomers. "That farther man must be Gale Morgan. They are trying for the greasewood canyon, to cut us off."

"We can't stand for that," decided de Spain, surveying the ground around them. "There's not so much as a sage-brush here for cover."

Lefever pointed to his right; at some distance a dark, weather-beaten cone rose above the yellow dessert. "Let's make a stand in the lava beds," he cried.

De Spain hesitated. "It takes us the wrong way." He pointed ahead. "Give them a run for that canyon, boys."

Urging their horses, the Sleepy Cat men rode at utmost speed to beat the flanking party to the train gateway. For a few minutes it looked an even break between pursuers and pursued. The two men in the foothills now had a long angle to overcome, but they were doing a better pace than those of Gap party behind, and half-way to the canyon it looked like a neck-and-neck heat for the narrow entrance. Lefever complained of the effort of keeping up, and at length reined in his horse. "Drop me here on the alkali, boys," he cried to the others. "I'll hold this end while you get thru the canyon."

"No," declared de Spain, checking his pace. "If one stays, all stay. This is as good a time as any to find out what these fellows mean."

"But not a very good place," commented Scott, as they slowed, looking for a depression.

"Its as good for us as it is for them," returned de Spain abruptly. "We'll try it right here."

He swung out of his saddle, Lefever and Scott after an instant's reconnoissance following. Sassoon they dismounted. Scott lashed his wrists together, while de Spain and Lefever unslung their carbines, got their horses down, and, facing the west and south, spread themselves on the ground.

The men behind lost nothing of the defensive movement of the pursued party, and slowed up in turn. For the moment the flankers were out of sight, but they must soon appear on the crest of a rise between them and the canyon. Lefever was first down and first ready with his rifle to cover the men behind. These now spread out and came on, as if for a rush.

Lefever, picking Logan, the foremost, sent a warning shot in front of him. De Spain fired almost at the same moment toward the big man making a detour to the right of the leader. The two bullets puffed in the distant alkali, and the two horsemen, sharply admonished, swerved backward precipitately. After a momentary circling indecision, the three rode closer together for a conference, dismounted, and opened a return fire on the little party lying to.

The strategy of their halt and their firing was not hard to penetrate. The men from the foothills were still riding for the canyon. No views were exchanged among Sassoon's captors, but all understood that this move must be stopped. Lefever and Scott, without words, merely left the problem to de Spain as the leader. He lay on the right of the line as they faced south, and this brought him nearest to the riders out of the foothills. Taking advantage of a lull in the firing, he pulled his horse around between himself and the attacking party, and in such a position that he could command with his rifle the fast-moving riders to the west.

Something of a predicament confronted him. He was loath to take a human life in the effort to get a cut-throat jailed, and hated even to cripple a beast for it, but the two men must be stopped. Nor was it easy to pick up the range offhand. But meaning that the Morgans, if they were Morgans, should understand how a rush would be met, he sent one shot after another, short, beyond, and ahead of the horsemen, to check them, and to feel the way for closer shooting if it should be necessary. The two dashed on undaunted. De Spain perceived that warnings were wasted. He lowered his sights, and, waiting his chance as the leader of the foothill pursuers rode into a favorable range, he fired for his horse's head. The beast jumped convulsively and pitched forward, head down in a half somersault, throwing his rider violently to the ground. Scott and Lefever yelled loudly

Out of the cloud of dust the man scrambled to his feet, looked coolly around, and brushed the alkali disgustedly from his eyes just as a second bullet from de Spain tore up the earth a few feet to one side of him. He jumped like a rabbit at this summons, and did not even make a further pretense at composure. Grabbing his hat from the ground, he ran like mad toward the hills. Meantime his mounted companion had turned about. De Spain sprang to his feet, jerked up his horse and cried: "Now for the canyon!" Pushing Sassoon into the saddle and profiting by the confusion, the railroad men rode hard for their refuge, and reached it without more molestation than an occasional shot from their distant pursuers on the main trail. De Spain and his scouts now felt assured of their escape. The foot-hills contingent was left far behind, and, tho their remaining pursuers rode in at times with a show of rushing, the chase was a stern one, and could be checked whenever necessary. Halting at times in this way to breathe their horses, or to hold off the rear pursuit, de Spain with his two companions and their pisoner rode into Sleepy Cat, locked Sassoon up, and went to the Mountain House for breakfast.

CHAPTER VII

Maintaining a Reputation

The abduction of Sassoon, which signalized de Spain's entry into the stage-line management, created a sensation akin to the exploding of a bomb under the range. The whole mountain country, which concentrates, sensibly, on but one topic at a time, talked for a week of nothing else. No such defiance of the traditions of the Morgan rule along the reaches of the Spanish Sinks had been attempted in years—and it was recalled more than once, when de Spain's feat was discussed at the ranches, on the trails, and in the haunts of gunmen in Calabasas, that no one of those who had ever braved the wrath of the Sink rulers had lived indefinitely to boast of it.

Experienced men, therefore, in the high country—men of that class who, wherever found, are old in the ways of the world, and not promptly moved by new or youthful adventure—dismissed the incident after hearing the details, with the comment or the conclusion that there would hardly be for de Spain more than one additional chapter to the story, and that this would be a short one. The most active Morgans—Gale, Duke, and the easy-going Satterlee—were indeed wrought to the keenest pitch of revengeful anger. No question of the right or wrong of the arrest was discussed—justification was not considered.

De Spain himself, somewhat surprised at the storm he had kicked up, heeded the counsel of Scott, and while the acute stage of the resentment raged along the trail he ran down for a few days to Medicine Bend to buy horses. Both Gale and Duke Morgan proclaimed, in certain public places in Sleepy Cat, their intention of shooting de Spain on sight; and as a climax to all the excitement of the week following his capture, the slippery Sassoon broke jail and, after a brief interval, appeared at large in Calabasas.

This feat of the Morgan satellite made a loud laugh at de Spain's expense. It mitigated somewhat the humiliation of Sassoon's friends, but it in no wise diminished their expressed resolve to punish de Spain's invasion. Lefever, who as the mixer among the stage men, kept close to the drift of public sentiment, decided after de Spain's return to Sleepy Cat that the stage-line authorities had gained nothing by Sassoon's capture.

"We ought to have thought of it before, Henry," he said frankly one night in Jeffries' office, "but we didn't think."

"Meaning just what, John?" demanded de Spain without real interest.

"Meaning, that in this country you can't begin on a play like pulling Sassoon out from under his friends' noses without keeping up the pace—without a second and third act. You dragged Sassoon by his hair out of the Gap; good. You surprised everybody; good. But you can't very well stop at that, Henry. You have raised hopes, you have led people to invest you with the faint glimmerings of a reputation. I say, the glimmerings, because such a feat by itself doesn't insure a permanent reputation, Henry. It is, so to say, merely a 'demand' reputation—one that men reserve the right to recall at any moment."

"Jingo, John! For a stage blacksmith you are some spieler." De Spain added an impatient, not to say contumelious, exclamation concerning the substance of Lefever's talk. "I didn't ask them for a reputation. This man interfered with my guard—in fact, tried to cut his throat, didn't he?"

"Would have done it if Frank had been an honest man."

"That is all there is to it, isn't it? If Sassoon or anybody else gets in the way of the stages, I'll go after them again—that's all there is to it, isn't it?"

Lefever tapped the second finger of one fat hand gently on the table. "Practically; practically all, Henry, yes. You didn't quite understand, but you have the right idea. What I am trying to hammer into your dense cocoanut is, that when a man has, gets, or is given a reputation out in this country, he has got to live up to it."

"What do you want me to do—back a horse and shoot two guns at once up and down Main Street, cowboy style?"

Lefever kept his patience without difficulty. "No, no. You'll understand."

"Scott advised me to run down to Medicine Bend for a few days to let the Morgans cool off."

"Right. That was the first step. The few days are a thing of the past. I suppose you know," continued Lefever, in as well-modulated a tone as he could assume to convey information that could not be regarded as wholly cheerful, "that they expect to get you for this Sassoon job."

De Spain flushed. But the red anger lasted only a moment. "Who are 'they'?" he asked after a pause.

"Deaf Sandusky, Logan, of course, the Calabasas bunch, and the Morgans."

De Spain regarded his companion unamiably. "What do they expect I'll be doing while they are getting me?"

Lefever raised a hand deprecatingly. "Don't be overconfident, Henry; that's your danger. I know you can take care of yourself. All I want to do is to get the folks here acquainted with your ability, without taking unnecessary chances. You see, people are not now asking questions of one another; they are asking them of themselves. Who and what is this newcomer—an accident or a genuine arrival? A common squib or a real explosion? Don't get excited," he added, in an effort to soothe de Spain's obvious irritation. "You have the idea, Henry. Its time to show yourself."

"I can't very well do business here without showing myself," retorted de Spain.

"But it is a thing to be managed," persisted Lefever. "Now, suppose—since the topic is up—we 'show' in Main Street for a while."

"Suppose we do," echoed de Spain ungraciously.

"That will crack the debut ice. We will call at Harry Tenison's hotel, and then go to his new rooms—go right to society headquarters first—that's my theory of doing it. If anybody has any shooting in mind, Tenison's is a quiet and orderly place. And if a man declines to eat anybody up at Tenison's, we put him down, Henry, as not ravenously hungry."

"One man I would like to see is that sheriff, Druel, who let Sassoon get out."

"Ready to interview him now?"

"I've got some telegrams to answer."

"Those will keep. The Morgans are in town. We'll start out and find somebody."

It was wet and sloppy outside, but Lefever was indifferent to the rain, and de Spain thought it would be undignified to complain of it.

When, followed by Lefever, he walked into the lobby of Tenison's hotel a few moments later the office was empty. Nevertheless, the news of the appearance of Sassoon's captor spread. The two sauntered into the billiard-hall, which occupied a deep room adjoining the office and opened with large plate-glass windows on Main Street. Every table was in use. A fringe of spectators in the chairs, ostensibly watching the pool games, turned their eyes toward de Spain—those that recognized him distinguished him by nods and whispers to others.

Among several groups of men standing before the long bar, one party of four near the front end likewise engaged the interest of those keener loafers who were capable of foreseeing situations. These men, Satterlee Morgan, the cattleman; Bull Page, one of his cowboys; Sheriff Druel, and Judge Druel, his brother, had been drinking together. They did not see Lefever and his companion as the two came in thru the rear lobby door. But Lefever, on catching sight of them, welcomed his opportunity. Walking directly forward, he laid his hand on Satt Morgan's shoulder. As the cattleman turned, Lefever, genially grasping his hand, introduced de Spain to each of the party in turn. What followed in the brief interval between the meeting of the six men and the sudden breaking up of the group a few moments later was never clearly known, but a fairly conclusive theory of it was afterward accepted by Sleepy Cat.

Morgan threw the brim of his weather-beaten hat back from his tanned face. He wore a mustache and a chin whisker of that variety designated in the mountains by the most opprobrious of epithets. But his smile, which drew his cheeks into wrinkles all about his long, round nose, was not unfriendly. He looked with open interest from his frank but not overtrustworthy eyes at de Spain. "I heard," he said in a good-natured, slightly nasal tone, "you made a sunrise call on us one day last week."

"And I want to say," returned de Spain, equally amiable, "that if I had had any idea you folks would take it so hard—I mean, as an affront intended to any of you—I never would have gone into the Gap after Sassoon. I just assumed—making a mistake as I now realize—that my scrap would be with Sassoon, not with the Morgans."

Satt's face wrinkled into a humorous grin. "You sure kicked up some alkali."

De Spain nodded candidly. "More than I intended to. And I say—without any intention of impertinence to anybody else—Sassoon is a cur. I supposed that when I brought him here after so much riding, that we had sheriff enough to keep him." He looked at Druel with such composure that the latter for a moment was nonplussed. Then he discharged a volley of oaths, and demanded what de Spain meant. De Spain did not move. He refused to see the angry sheriff. "That is where I made my second mistake," he continued to Morgan and forcing his tone just enough to be heard. Druel, with more hard words, began to abuse the railroad for not paying taxes enough to build a decent jail. De Spain took another tack. He eyed the sheriff calmly as the latter continued to draw away and left de Spain standing somewhat apart from the rest of the group. "Then it may be I am making another mistake, Druel, in blaming you. It may not be your fault."

"The fault is, you're fresh," cried Druel, warming up as de Spain appear to cool. The line of tipplers backed away from the bar. De Spain, stepping toward the sheriff, raised his hand in a friendly way. "Druel, you're hurting yourself by your talk. Make me your deputy again sometime," he concluded, "and I'll see that Sassoon stays where he is put."

"I'll just do that," cried Druel, with a very strong word, and he raised his hand in turn. "Next time you want him locked up, you can take care of him yourself."

The sharp crack of a rifle cut off the words; a bullet tore like a lightning bolt across de Spain's neck, crashed thru a mahogany pilaster back of the bar, and embedded itself in the wall. The shot had been aimed from the street for his head. The noisy room instantly hushed. Spectators sat glued to their chairs. White-faced players leaned motionless against the tables. De Spain alone had acted; all that the bartenders could ever remember after the single rifle-shot was seeing his hand go back as he whirled and shot instantly toward the heavy report. He had whipped out his gun and fired sidewise thru the window at the sound.

That was all. The bartenders breathed and looked again. Men were crowding like mad thru the back doors. De Spain, at the cigar case, looked intently into the rainy street, lighted from the corner by a dingy lamp. The four men near him had not stirred, but, startled and alert, the right hand of each covered the butt of a revolver. De Spain moved first. While the pool players jammed the back doors to escape, he spoke to, without looking at, the bartender. "What's the matter with your curtains?" he demanded, sheathing his revolver and pointing with an expletive to the big sheet of plate glass. "Is this the way you build up business for the house?"

Those close enough to the window saw that the bare pane had been cut, just above the middle, by two bullet-holes. Curious men examined both fractures when de Spain and Lefever had left the saloon. The first hole was the larger. It had been made by a high-powdered rifle; the second was from a bullet of a Colt's revolver; it was remarked as a miracle of gun-play that the two were hardly an inch apart.

In the street a few minutes later, de Spain and Lefever encountered Scott, who, with his back hunched up, his cheap black hat pulled well down over his ears, his hands in his trousers pockets and his thin coat collar modestly turned against the drizzling rain, was walking across the parkway from the station.

"Sassoon is in town," exclaimed Lefever with certainty after he had told the story. He waited for the Indian's opinion. Scott, looking thru the water dripping from the brim of his seasoned derby, gave it in one word. "Was," he amended with a quiet smile.

"Let's make sure," insisted Lefever. "Supposing he might be in town yet, Bob, where is he?"

Scott gazed up the street thru the rain lighted by yellow lamps on the obscure corners, and looked down the street toward the black reaches of the river. "If he's here, you'll find him in one of two places. Tenison's ——"

"But we've just come from Tenison's," objected Lefever.

"I mean across the street, upstairs; or at Jim Kitchen's barn. If he was hurried to get away," added Scott reflectively, "he would slip upstairs over there as the nearest place to hide; if he had time he would make for the barn, where it would be easy to cache his rifle."

Lefever took the lapel of the scout's coat in his hand. "Then you, Bob, go out and see if you can get the whole story. I'll take the barn. Let Henry go over to Tenison's and wait at the head of the stairs till we can get back there. It is just around the corner—second floor—a dark hall running back, opposite the double doors that open into an anteroom. Stay there, Henry, till we come. It won't be long, and if we don't get track of him you may spot your man yourself."

De Spain found no difficult in locating the flight of marble stairs that led to the gambling rooms. It was the only lighted entrance in the side street. No light shone at the head of the stairs, but a doorway on the left opened into a dimly lighted anteroom and this, in turn, thru a large arch, opened on a large room brilliantly lighted by chandeliers—one in the centre and one near each corner. Around three sides of this room were placed the keno layouts, roulette-wheels, faro-tables, and minor gambling devices. Off the casino itself small card-rooms opened.

The big room was well filled for a wet night. The faro-tables were busy, and at the central table at the farther end of the room—the table designated as Tenison's, because, at the rare intervals in which the proprietor dealt, he presided at this table—a group watched silently a game in progress. De Spain took a place in shadow near one side of the archway facing the street-door and at times looked within for the loosely jointed frame, crooked neck, tousled forehead, and malevolent face of the cattle thief. He could find in the many figures scattered about the room none resembling the one he sought.

A man entering the place spoke to another coming out. De Spain overheard the exchange. "Duke got rid of his steers yet?" asked the first.

"Not yet."

"Slow game."

"The old man sold quite a bunch this time. The way he's playing now he'll last twenty-four hours."

De Spain, following the newcomer, strolled into the room and, beginning at one side, proceeded in leisurely fashion from wheel to wheel and table to table inspecting the players. Few looked at him and none paid any attention to his presence. At Tenison's table he saw in the dealer's chair the large, white, smooth face, dark eyes, and clerical expression of the proprietor, whose presence meant a real game and explained the interest of the idlers crowded about one player whom de Spain, without getting closer in among the onlookers than he wanted to, could not see.

Tenison, as de Spain approached, happened to look wearily up; his face showed the set lines of a protracted session. He neither spoke nor nodded to the newcomer, but recognized him with a mere glance. Then, tho his eyes had rested for only an instant on the new face, he spoke in an impassive tone across the intervening heads: "What happened to your red tie, Henry?"

De Spain put up his hand to his neck, and looked down at a loose end hanging from his soft cravat. It had been torn by the bullet meant for his head. He tucked the end inside his collar. "A Calabasas man tried to untie it a few minutes ago. He missed the knot."

Tenison did not hear the answer. He had reverted to his case. De Spain moved on and, after making the round of the scattered tables, walked again thru the archway into the anteroom, only to meet, as she stood hesitating and apparently about to enter the room, Nan Morgan.

(To be continued.)

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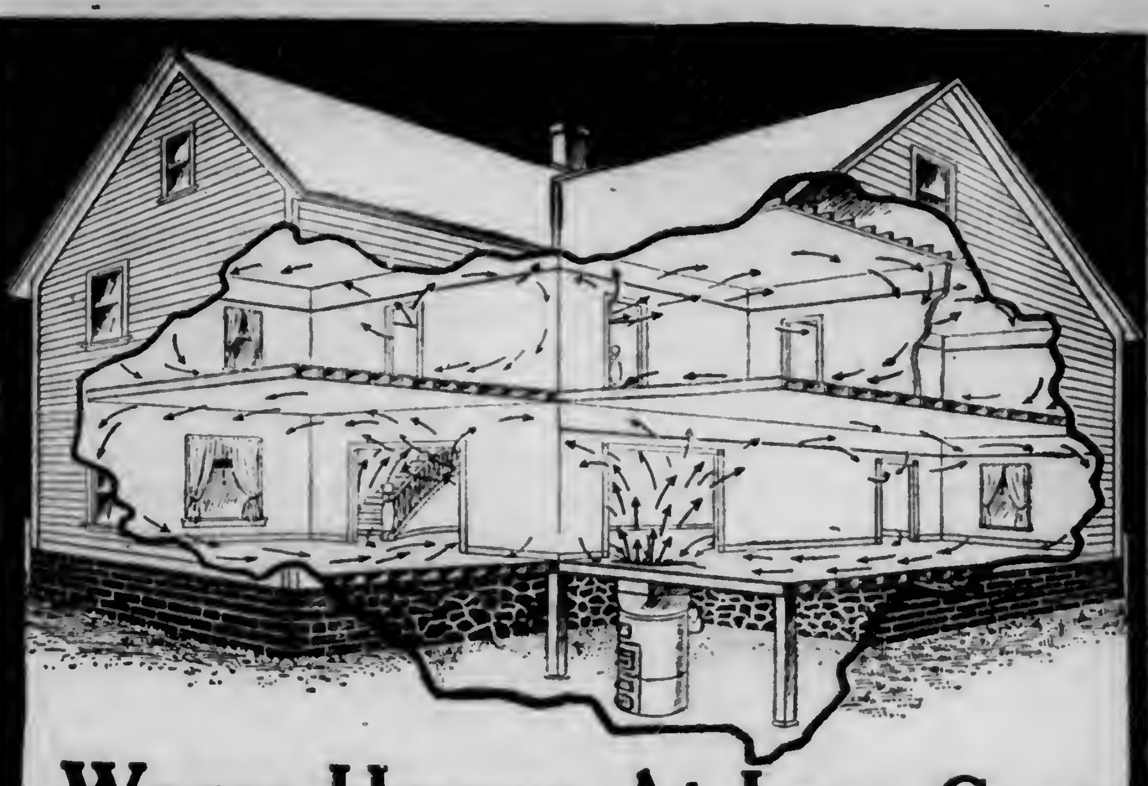
When Betty bathes the people stand
And gaze in groups upon the sand.
The children stop their careless play
To watch her sporting in the spray.
The lovers on the rocks above
In staring down forget their love.
And on the hotel portico
A dozen glasses point below,
When Betty bathes.

A mermaid minus glass and comb,
She frolics in the creamy foam,
And swims, and splashes, dives and dips,
While folks look on with parted lips.
A higher tide than e'er before
Is seen to inundate the shore.
For Betty weighs three hundred pounds—
The ocean rises all around
When Betty bathes.

—Minna Irving in Milestones.



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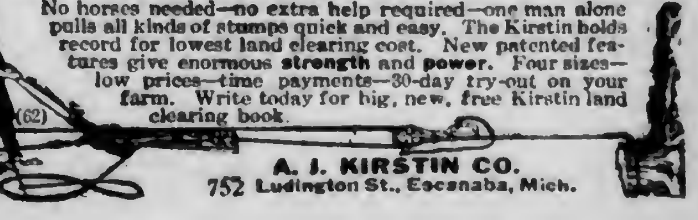

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Grange

AMONG THE GRANGES

Lancaster Co., Pa.—This county is very much in the back ground in grange work. This county can boast of only three granges. The third one, Salisbury Grange No. 1685, was organized about eighteen months ago.

Tuesday evening, October 15, was "Booster Night". Visitors from Lyndell, Wyebrooke, Honey Brook, West Caln, Brandywine, and Goshen granges were present. The grange was opened by Dr. C. C. Rankin, of Brandywine Grange, who is district state deputy. The Lyndell degree initiated a class in the first and second degrees. Members from Wyebrooke grange then gave an entertainment which consisted of recitations and a play entitled "Too Much Marrying".

The sisters served refreshments consisting of sandwiches, cheese, cake and coffee. The meeting was very well attended, and was a most enjoyable occasion and it is hoped it will benefit in the way of boosting the new grange. They have recently moved into new quarters and purchased regalia for their officers. The future seems bright for an enthusiastic grange.—R. C. Ross.

A Good Walk and Well-Kept Lawn Add to Appearance

Stedman Grange No. 241, N. Y., celebrated its 43d anniversary and, in these stirring times, no live farmers' organization can long confine itself to reminiscences, so the meeting just naturally built itself over into a red-hot informal discussion of farm conditions, past and present.

The point was made by a former leader and a charter member that the truly big men, the giant thinkers, the men of iron, among the farmers are growing less and less in number; not because fewer of such men are born, but because the city has for years been calling the best from each generation, so that now practically all of these men are in other vocations. The obvious conclusion drawn by the organization was that these "men of iron" in city positions have, during the past 43 years, been pinching the life-blood out of the tillers of the soil, in a way that never would have been possible if an equal number of these conspicuously strong characters had stayed in the country.

The present milk war was discussed and the Worthy Master contended that, even if a few well-to-do farmers could afford to produce milk at the old price without actually bankrupting themselves, it would be neither fair nor right to do so, since many farmers are badly in debt and it is absolutely essential that they make a little profit. The price demanded by the League is still below cost of production so that, at best, the dairyman would be receiving less than other working men for his services, and there is really no reason why he should donate his labor while the city consumer can afford to patronize the "movies" and the ice cream parlors in crowds every night. Such things are practically unknown to the farmer and his family, and why should he contribute to them for other people? One man said, "We hear much of the lure of the city, but is not the lure of the country just as strong? Many boys are leaving the farm to accept city jobs but they go with sober faces, not because they want to go but because they must support their families and, to that end, they are obliged to go." That man's hired man has just gone, tho he had been a reliable dependence since long before his marriage. He now has a wife and three babies to support, and the farm employer could no longer compete with the city employers; hence the enforced separation to the mutual regret of both.

One of the ladies wondered why, with less machinery and fewer farm helps, people had more time to attend grange meetings 43 years ago than they have today. After ample discussion it was agreed that many of these "helps" are only "speeders", by which the farmer is induced to produce more; not that he may gain more, but that food may be cheaper to the consumer. The real gain, therefore, is to the ultimate consumer, not to the producer.

In the last 43 years, have we really advanced or retrograded? Is rural life more worth the living today, or did the pioneer granger enjoy the real things of life fully as much 43 years ago?—E. M. A.

Lackawanna County Fair and Grange Poultry Association is held annually at the Akerly Fair grounds on the Scranton and Binghamton Electric R. R. The exhibit closed on Saturday, October 13, after a trying week of wind and rain. Despite the unfavorable weather, the fair was considered the best ever held.

The live stock included purebred cows, sheep, horses, hogs, etc. The poultry was all pure breeds of Plymouth Rocks, Rhode Island Reds, Wyandottes, Leghorns and many other varieties, beside turkeys, geese, chicks, and guinea fowls. There were the usual amusements on the Midway that delight the farm boys and girls. Besides, exhibits of new models in farm machinery, autos, trucks, and labor saving devices for the housewife were plentiful.

There was a large and splendid display of fine vegetables and fruit of all kinds. It is interesting to see so many varieties of potatoes, tomatoes, apples, grapes, plums, etc., that are grown and the numerous kinds of small fruits.

The Zoological Society displayed sprayed fruit and vegetables, and beside those, in sharp contrast, were the unsprayed, leaving no doubt in the minds of the visitors that it pays big to treat for disease and insects.

The ladies out-did themselves this year in drying and canning and Mr. Hoover would have been gratified could he have had a peep at the fine assortment of canned fruit, jellies, pickles and vegetables, all done up in first-class condition, either by cold pack, stewed, or the wash-boiler and water method.

Hand work of all kinds and many useful things made for the Red Cross proved that the farm women are on the job every time in our county. Nothing is wasted that can possibly be used in the majority of the farm homes.—Mrs. E. A. K.

ONE FARMER'S METHOD

Raymond C. Hitchings, of South Onondaga, son and partner of Grant Hitchings, of well-known apple fame, says: "With the slogan of speed up the production of all farm crops to produce a greater supply for both domestic and foreign consumption, and also the cry of the increased cost of living, I feel that the time has come when a farmer must manage his farm as systematically as does the manufacturer or retailer his business." The Hitchings' farm is famous for its apples and the original and very successful system of mulching devised by the owner who has over 500 acres in bearing trees and he is enlarging his orchards each year. A great deal of help is employed the year round, with many horses and motor trucks in daily use.

"The situation demands that a farmer know just what each crop costs him in order to determine the revenue he should receive to obtain a reasonable profit. By keeping a record of his crops he can determine what crop is best adapted to his farm, and by devoting more time to this particular crop he can increase the production and earning capacity of his farm. Also with these records for reference supplies for each year can be better calculated."

The plan of accounting in use at the Hitchings' farm for two years has resulted in eliminating several crops because they were found to cost more to produce than the revenue derived warranted.

The expense of any crop can be easily determined by the plan adopted by Mr. Hitchings. As an example, he has a diagram for potatoes. In the first column is the expense; the number of hours a man spends in plowing, the number of hours a horse or team works, etc., and a column for total expense, including seed, fertilizers, cost of planting, etc. At the end of the season he knows how many hours of man labor and horse labor has been put upon cultivation and harvesting, expense of spraying, etc., and when sold he knows just what part of the receipts may be justly called a profit.

In determining labor expense Mr. Hitchings allows a 5-cent leeway for inefficiency of men and labor done which has little real value.

The average cost of keeping a horse for a year is determined as follows: Twelve quarts of oats a day at an average of 60 cents a bushel equals $56.25; one and one-half tons of straw at $12 a ton equals $18; six tons of hay at $15 a ton equals $90; $5 for shoeing and other incidentals equals a total of $169.25 for the year (previous to 1917).

Three hundred working days, with ten hours a day, or 3,000 hours a year, is divided by the total cost, and the results show it costs 5⅗ cents an hour to keep the horse. It is necessary to keep a record of the actual number of hours a horse works during each month, and the number of hours it is possible to work. In 1914 the cost of a horse to Mr. Hitchings ranged from 6 to 20 cents an hour, depending on how advantageous a use of horse labor could be made on the various crops.

Mr. Hitchings believes in giving the children work to do, for which they should be well paid, as an inducement for them to take up farm work.

Such work should be so planned that hard work will bring good results. As a proof of the value of his theories one has only to look at his immense business and its successful management and to the fact that he took his sons into an active partnership as soon as they were of a responsible age, and that they take a lively interest in all farm work.—F.

THE NEW DRAFT PLAN

A new plan has been devised by which the remaining men who registered last June under the selective draft will be classified with respect to each one's liability to be called. The men will be required to fill out blanks giving detailed information as to their occupation, family obligations, etc., and each one assigned to a class according to this information. Five classes have been made and each class sub-divided so as to take care of any situation.

Men from class one will be called first, those from class two will go next, and so on. The list of classes and sub-divisions follows:

Class I

1.—Single man without dependent relatives.

2.—Married man (or widower with children) who habitually fails to support his family.

3.—Married man dependent on wife for support.

4.—Married man (or widower with children) not usefully engaged, family supported by income independent of his labor.

5.—Men not included in any other description in this or other classes.

6.—Unskilled laborer.

Class II

1.—Married man or father of motherless children, usefully engaged, but family has sufficient income apart from his daily labor to afford reasonably adequate support during his absence.

2.—Married man, no children, wife can support herself decently and without hardship.

3.—Skilled farm laborer engaged in necessary industrial enterprise.

4.—Skilled industrial laborer engaged in necessary agricultural enterprise.

Class III

1.—Man with foster children dependent on daily labor for support.

2.—Man with aged, infirm or invalid parents or grandparents dependent on daily labor for support.

3.—Man with brothers or sisters, incompetent to support themselves, dependent on daily labor for support.

4.—County or municipal officer.

5.—Firemen or policemen.

6.—Necessary artificers or workmen in arsenals, armories and navy yards.

7.—Necessary custom house clerk.

8.—Persons necessary in transmission of mails.

9.—Necessary employes in service of United States.

10.—Highly specialized administrative experts.

11.—Technical or mechanical experts in industrial enterprises.

12.—Highly specialized agricultural expert in agricultural bureau of State or Nation.

13.—Assistant or associate manager of necessary industrial enterprise.

14.—Assistant or associate manager of necessary agricultural enterprise.

Class IV

1.—Married man with wife (and) or children (or widower with children) dependent on daily labor for support and no other reasonably adequate support available.

2.—Mariners in sea service of merchants or citizens in United States.

3.—Heads of necessary industrial enterprises.

4.—Heads of necessary agricultural enterprises.

Class V

1.—Officers of States or the United States.

2.—Regularly or duly ordained ministers.

3.—Students of divinity.

4.—Persons in military or naval service.

5.—Aliens.

6.—Alien enemies.

7.—Persons morally unfit.

8.—Persons physically, permanently or mentally unfit.

9.—Licensed pilots.

Since all who are registered and who have not yet been called must be classified under the new plan it is probable that those who already have exemption papers will also be classified.

FARM LABOR AND THE DRAFT

Competition With High Wages More Damaging

The resolutions passed by the Brandywine Valley Farmers' Club, Chester Co., Pa., recently published in your columns, were the start of wide spread agitation of the labor situation in Chester County. There is more truth in the remarks made by Dr. Kane at the recent West Chester meeting than is generally admitted. The few people that have been taken from the farms by the military draft should not create the shortage that now exists. The fact is that before this time the high wages and the allurements of city life had taken the largest toll of farm workers. Next comes conscription, and with what few it has taken there is created a shortage that has driven farm labor to $3 per day and better.

These conditions have brought about this additional fact which is even more dangerous. A great many laborers make enough money in from three to five days' work to meet their requirements, and that is all they are working for. For the last five weeks I have had from three to ten men employed that have not worked more than from three to five days per week. This condition is decreasing the efficiency of farm labor more than results from the numbers taken by the draft.

This section of the country has a great many fields of corn uncut at the present time (October 11). The fodder is depreciating in value very rapidly and the ears have commenced dropping to the ground. Wheat seeding is being retarded, which in this section means certain decrease in yield for next year. — A. B. Huey, Chester Co., Pa.

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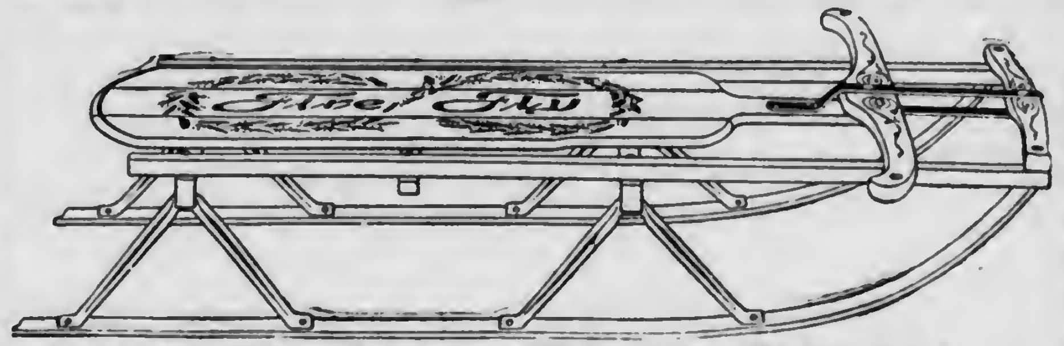

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Oct. 29, 1917.

As was predicted in these columns last week the potato market had reached its high level, and since then the market has slowly but surely been easing off and prices are now about 15 cents per bushel lower. The high prices that had been prevailing for several days previous brought out liberal supplies, and Philadelphia has now more potatoes on hand by far than any other day this season. The Reading yard reports 93 cars on delivery tracks and 76 cars outside waiting to be placed, making a total of 169 cars. These with the 91 cars in the Pennsylvania yard make a total of 260 cars in the city. Under this accumulation the market is weak even at the decline in price. Pensylvanias are now selling all the way from $1.65 to $1.75 per bushel and New York State stock from $1.55 to $1.63. There are also some potatoes from Wisconsin here which showed generally good quality and condition and bring from $3.85 to $3.90 per 150-lb. sack. Jersey Giants, in 150-lb. sacks are selling at $3.50 to $3.60. Stock hauled in by nearby farmers ranged from 90 cents to $1 per basket for No. 1 stock with seconds selling at 60 to 75 cents.

Sweet potatoes show little change from last week's quotations on Jersey stock, but Eastern Shore stock is lower and now selling at $2.50 to $3 per barrel for No. 1, and $1.50 to $1.75 for No. 2. Jersey Yellows in ⅝-bushel basket bring all the way from 65 to 80 cents and reds from 75 to 85 cents; with No. 2 selling at 35 to 50 cents.

Vegetables

There is no change to be noted in dried beans and prices rule firm as follows: Marrows, Pea and Mediums $9 to $9.25 per bushel, and Red Kidneys $8.50. Green beans are now coming from the South, quite a few shipped from South Carolina are selling at $3 to $4 per hamper. Beets are firm and active at $2 to $3 per 100 bunches, and loose winter stock in barrels $2.50 to $3. Brussel sprouts are much more plentiful and prices accordingly lower, ranging from 10 to 15 cents per quart, as to quality. Cabbage has been probably the most active commodity in the market and last week prices advanced a little every day until best Danish was selling at $45 to $50 per ton, and domestic $38 to $43. It looks, however, as if it has reached its high level at these prices, as receipts are now quite plentiful and it is believed that these prices will not be maintained. But at the same time no big drop will take place.

Cauliflower is in fair supply and barely steady at $2.50 per crate for Long Island Stock, with western New York ranging from $1.75 to $2. Celery is showing a wide range with market steady on fancy stock at 30 to 55 cents a bunch. Some celery, however, is showing frosted condition and this is selling very low, ranging from 10 cents a bunch up. Mushrooms are in fair demand at $1.50 to $2 per 4-lb. basket. The high prices at which onions were selling last week brought more stock to this market than can be used to good advantage and prices are 50 to 75 cents a sack lower. New York, Ohio, Massachusetts, and Illinois onions are selling at $3 to $3.25 per sack, with some from California bringing $3.25 to $3.50. Parsnips are in fair supply and steady at $2.75 to $3.25. Pumpkins are quite plentiful, but demand is active and market firm at $5 to $20 per 100, as to size. Nearby peppers are mostly poor and selling at low prices. Greens range from 25 to 50 cents a basket; reds 75 cents to $1; cayenne, 75 cents to $1.25 and green tomato peppers, 50 to 75 cents. While supplies of spinach are fairly liberal prices are ruling steady at 30 to 35 cents a basket. Good squash is scarce, and selling from 65 to 85 cents a basket. There are no good nearby tomatoes on the market and strictly fancy stock would bring high prices, the poor and ordinary tomatoes that are in the market sell from 25 to 75 cents as to quality. Some hot house tomatoes are making their appearance and bringing from 20 to 25 cents a pound. Turnips are somewhat lower than last week, whites ranging from 35 to 50 cents per ⅝-bushel basket, and yellows from 50 to 75 cents per basket. There are very few rutabagas here and the market is firm at $1.25 to $1.35 per medium size stock with large at $1 to $1.15 per cwt. Watercress is about steady at 1 to 1½ cents a bunch.

Fruits

The sugar famine which became quite acute in Philadelphia last week had a serious effect on the fruit market and such fruits as peaches, plums, grapes and quinces were very hard to move and all were bringing low prices. Peaches have also been in liberal supply and as many of them were soft and overripe they had to be moved quickly, making a ridiculously low market. Elbertas in bushel baskets have only been bringing from 25 to 75 cents. Grapes are also quite plentiful and hard to move at low prices. Concords in Jumbo baskets are selling at 50 to 60 cents and Niagaras at 40 to 55 cents. Concords in 4 quart baskets sold at 19 to 21 cents and in pony baskets 14 to 15 cents. Pears are meeting a slow demand and draggy market. Bartletts, $1.50 to $1.75 a bushel and $4 to $5.50 a barrel; Seckels, $2 to $3.50 per bushel and $6 to $9 per barrel. A few De Anjous brought as high as $6.50 per barrel. Nearby Kieffers are plentiful and dull at 20 to 45 cents a basket.

While the sugar famine had a bad effect on other fruit it had very little influence on the apple market. They, however, are moving very slowly and the market is draggy and generally lower. While fresh arrivals are not heavy there were many apples carried over this week from the heavy offerings of last week and most of this carried over stock was poor and ordinary and helped to bring about the decline in the market. Prices are now ranging about as follows: Grimes Golden, $3.50 to $6; Gravenstein, $2.75 to $6; Jonathans, $4 to $6; Greenings, $3 to $4.50; Baldwins, $2.50 to $4.50; York Imperials, $2.50 to $4.50; Spys, $3.50 to $5; Stark, $3 to $4.75; Staymans, $3 to $5.25; Black Bens, $3 to $4.25; Gano, $2.50 to $4; Ben Davis, $2.25 to $3.75; Hubs, $3@4.75; Kings, $3 to $5; Black Twig, $3 to $4.50. Odd and mixed varieties are $2.50 to $4. There are also quite a few box apples being offered at this time and selling about as follows: Jonathans, $1.50 to $2.75; Delicious, $2 to $3; Grimes Golden, $1.75 to $2.50; Belleflower and Newtown Pippins, $1.25 to $1.50. Apples in bulk are selling at $1.75 to $2.25 per cwt. Demand for cranberries is improving and prices are ranging a little higher. Crates are selling at $2.50 to $3.50, and barrels at $8 to $11. Chestnuts are in heavy supply and prices are much lower than last week, ranging generally from $3.50 to $4.50 a bushel, altho an occasional lot is sold a little higher.

Poultry

Receipts of live poultry have been quite liberal and as demand has been rather light the market is ruling weak and possibly a little lower, with supplies hardly cleaning up. Quotations are about as follows: Fowls, as to size and quality, 20 to 23 cents; roosters, 18 to 19 cents; spring chicks, not Leghorns, 20 to 23 cents as to quality. Spring chickens, Leghorns, 19 to 21 cents. Ducks, Pekin, 21 to 22 cents; Indian Runners, 19 to 20 cents. Spring ducks, 22 to 23 cents. Turkeys, 22 to 26 cents. Young guineas, per pair, 75 cents to $1; old, per pair, 60 to 65 cents. Pigeons, 20 to 30 cents per pair.

Dressed poultry shows no important change over last week. Supplies were ample for demand, which was quiet. Fresh killed, dry-picked fowls ranged from 24 to 28 cents as to size and quality. Old roosters, 21 to 23 cents; roasting chickens, 23 to 26 cents as to size and quality. Fancy broilers, 30 to 36 cents; turkeys, nearby, 30 to 34 cents; western, 30 to 32 cents. Ducks, 25 to 27 cents.

Eggs

Strictly fancy fresh nearby eggs are scarce and firm with demand greater than the supplies. Firsts are selling at 45 cents per dozen and current receipts at 42 to 43 cents. Under-grade eggs are in fair supply and meeting a slow sale at 36½ to 38 cents a dozen. Selected, carefully-candled eggs are jobbing out at 50 to 52 cents a dozen.

YORK PRODUCE MARKET

York, Pa., Oct. 29, 1917.

Many of the prices were unchanged the past week. Potatoes are slowly reaching the prices of other places. Apples are yet at the lowest mark. Eggs reached the 50-cent mark this week. Corn is nearing the close of its season.

Eggs.—48@50c per dozen.

Butter.—Country, 45@48c lb; separator, 48@50c lb. Milk, 10 cents a quart.

Poultry.—Hens, 18c per lb; springers, 18c per lb; dressed, 50c@$1.25 each.

Vegetables.—Potatoes, 12@20c ½ pk; $1.20@1.40 per bushel. Cabbage, 3@12c head. Lettuce, 2@5c head. Beets, 5c bch. Radishes, 5c bch. Onions, 10c bx; 20@25c ½ pk; scarce. Lima beans, 24@28c quart. Soup beans, 30c quart. Celery, 5@10c stalk. Tomatoes, 8@10c bx; 20@30c ½ pk. Turnips, 10@15c ½ pk. Eggplants, 3@8c each. Corn, 30c dozen. Corn meal, 10@12c quart.

Fruit.—Apples, 10@25c ½ pk. Plums, 5@10c bx. Pears, 5@8c bx; 15c ½ pk.

Retail Grain Market.—Wheat, $2.25; corn, $2.25; oats, 90c; rye, $1.50; bran, $2.10 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $2.05; corn, $1.90; oats, 65c; rye, $1.25; bran, $34@38 ton; middlings, $58 ton.

LANCASTER PRODUCE

Lancaster, Pa., Oct. 29, 1917.

Lancaster County's crop of chickens is being rapidly consumed according to farmers, and the scrawny offerings today were said to have been the left-overs. Eggs jumped today to 55 cents a dozen in some cases, and potatoes advanced to $1.65 a bushel. Little corn was offered. Butter declined to 48 cents.

Butter and Eggs.—Creamery butter, 50@52c per lb; country butter, 48c; eggs, 50@55 cents per dozen.

Poultry.—Dressed old chickens, $1.25@1.50; dressed young chickens, 75c@$1; live chickens, $1.50@2 per pair; live old chickens, 18 cents per lb.

Vegetables and Fruits.—Corn, 25c dozen. Lima beans, 18c pint. Celery, 5@10c bunch. Lettuce, 5@12c head. Dry onions, 5@10c box. Cauliflower, 15@20c head. Eggplant, 5@10c each. Cabbage, 2@8c each. Sweet potatoes, 30c ½ pk. Potatoes, $1.15@1.65 bushel; 15@25c ½ pk. New turnips, 15c ½ pk. Spinach, 5c ½ pk. Tomatoes, 25@30c ½ pk. Pears, 15c ½ pk. Apples, 10@20c ½ pk. Grapes, 20c ½ pk.

Grain Market.—Wheat, $2@2.05 bushel; chicken wheat, $1.95@2; new ear corn, $1.20@1.27; corn $2@2.07; rye $1.75@2.02; timothy hay, $23@24 per ton; mixed hay, $22@23; wheat straw, $11@12.

NEW YORK PRODUCE

New York City, Oct. 29, 1917.

Butter market quiet, and cheese still unsettled. Fine fresh eggs firm; all others dull and weak. Dressed fowls lower on all grades. Live poultry moderately active. Apples quiet but steady. Potatoes lower.

Butter.—Creamery, extras (92 score), per pound, 45c; higher scores, 45½@46c; thirds to firsts, 40@44½c; state dairy, 37@44½c; ladles, 37@41c.

Eggs. — Fresh gathered extras, 46@47c; extra firsts, 44@45c; nearby white, fine to fancy, 68@72c; ordinary to good, 50@65c; browns, 50@58c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 36@38c; old roosters, 20c; squabs, $2.00@5.75 per dozen. Spring ducks, per lb., 25@27c; turkeys, fresh killed, 30@35c.

Vegetables and Greens.—Beets, bbl., $2.50@3. Onions, per 100-lb. bag, $2.25@3.75. Potatoes Jersey, $3.00@4.25 per bbl; state and western, $3.60@4.50 per bbl. Carrots, $2.25@2.75 bbl. Cucumbers, $1@1.50 bas; peppers, bbl., $2.50@5; tomatoes, Jersey, 50c@1.75 per box.

Apples.—Wealthy, $3@6 bbl; Wolf River, $2.50@5; McIntosh, $3@7; Jonathan, $3@7.50; York Imperial, $2.50@5. Twenty Ounce, $2.50@5.50; King, $2.50@5.50; Baldwin, $2.50@5.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., Oct. 29, 1917.

Beef Cattle.—Offerings were moderate but ample for requirements and the market was quiet and without important change.

Steers.—Good to choice, $11.75@13.75; fair to good, $10@11; medium to fair, $9@10; light and common, $8@9; milk cows, $75@120; bulls, $6.25@8.50; extra choice higher; cows, fat, $8@8.50; extra choice higher; medium, $6.75@7.75; fair, $5.25@6.50; ordinary, $4.25@5; calves, exceptional lots, $16.50@17; good to choice, $14.50@15; medium and southerns, $9@15.50.

Hogs.—The market ruled firm and slightly higher in sympathy with the strength of advices from outside points. Offerings were only mderate and demand was fair. Quotations for best western $17.50@18.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., Oct. 29, 1917.

The receipts of cattle for today's market were 210 cars as compared with 281 cars last Monday. Today's supply came from Virginia 93 cars; Chicago, 55; Buffalo, 28; St. Paul, 8; Pennsylvania, 11; N. Y., 7; St. Louis, 5; Pittsburgh, 2; New Jersey, 1. About 70 cars of the cattle that arrived here to be sold today were sold on Saturday, and were shipped out. The number really on sale today was only about 140 cars; the least number in the yards on any Monday for more than two months.

The demand for butcher cattle in sympathy with an improved beef trade, in the Eastern Cities, was active, particularly for anything in the steer and heifer line that had fair to good kill on it. Most salesmen quoted the better grades of steers and heifers 50 cents higher, and what is called in this market a medium grade, 25 to 35 cents higher, and common killers 10 to 15 cents higher.

The best killing stuff on the market was a carload of very good West Virginia spayed heifers, that weighed 1,170 lbs. The price brought was 12 cents per lb. One car of Virginia steers that weighed 1,225 lbs. had pretty fair flesh and quite some fat, but were weak on quality, sold at $12.15. Another car that weighed 1,135 sold at $11.65. A good many cars of Virginia steers weighing 1,000 to 1,100 lbs., that didn't look as if they would make very good meat, sold at $10.40 to $11. One car of good 920-lb. Virginia heifers sold at $10.50. Another car weighing 890 lbs. sold at $10.15. One bunch of 15 head of Virginia heifers that were good but not spayed, sold at 11 cents. There was a heavy supply of cows for butcher uses, and they didn't sell quite as well as the same kind sold a week ago. A few bunches of extra good cows, weighing 1,050 sold at $9.25 to $9.50. The grade called "good" sold at $8.50 to $9. A fair kind at $7.50 to 8. The grade called "slippery" at $6 to $7, and bolognas at $4.30 to $5.50. A fair grade of oxen sold at $8.50 to $9 and a plain kind at $7 to $8.

Feeders

The attendance of farmers was quite large. A good many of those that have been holding off confident that the longer they waited the lower they would get them, have found their reckoning wrong, and were ready to take the goods. The short supply, together with the increased cost of last week at Western markets, of the feeders that were here today, made it necessary for buyers to pay a premium over last week's prices for similar kinds, and that premium was at least 15 cents per cwt. and in some instances 25 cents on the fair to good grades. Common light weight and rough stuff, in the stock and feeder line, were not wanted and had to sell at about last week's prices.

One bunch of 16 head of Canadian feeders weighing 1,000 lbs. sold at $12.30. Another bunch of 40 head weighing 1,000 lbs., at $11.90. One bunch 20 horned cattle weighing 1,090 at $11.25. Another of 15 head weighing 1,000 lbs. at $11. Another bunch of head weighing 940 lbs. at $10.75. A good many bunches of Canadians that were fair, both horned and dehorned, weighing 850 to 900 lbs. sold at $9.50 to $10.25.

Among the sales of feeders that came from Western markets were a bunch of 20 head weighing 1,000 lbs. at $11. Another bunch of 20 head weighing 980 lbs. at $10.80; one of 40 head of N. Y. State steers weighing 1,000 lbs. at $10.75. One of Western steers weighing 920 lbs. at $10.50. Another of 12 head that weighed 880 lbs. at $10.25. Another of 25 head that weighed 860 lbs. at 10 cents and a great many bunches of pretty fair kind weighing 800 to 850 lbs. at $9.50 to $9.75. A grade of feeders on the plain order, weighing 850 to 900 lbs., sold at $8.85 to $9.25. Some that were in the same class weighing 700 to 800 lbs. sold at $8 to $8.50. One bunch of nice little yearlings weighing 620 lbs. that came from Chicago, sold at $9.75. Common light weight stockers 400 to 600 lbs. were not much sought after and sold at $6.40 to $7.

PITTSBURGH LIVE STOCK

Pittsburgh, Pa., Oct. 29, 1917.

Cattle higher; supply, 120 cars; choice, $11.50@12.25; prime, $12.50@13.25. Sheep steady; supply, 12 double decks; prime wethers, $7@11.60; culls and common, $5@7; lambs, $12@16.60. Veal calves, $15@15.50. Hogs steady; receipts, 35 double decks; prime heavies, $16.50@16.60; mediums, $16.25@16.30; heavy Yorkers, $15.75@16.25; light do., $14.50@15.00; pigs, $14@14.50; roughs, $14.50@15.25.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Oct. 29, 1917.

Baled Hay and Straw.—Receipts 276 tons of hay and 4 cars of straw. Offerings of hay were light and the market ruled firm with a good demand. Straw also ruled firm under light offerings and a fair demand.

Timothy hay, according to location: No. 1 large bales, $27@27.50; No. 1 small bales, $27@27.50; No. 2, $26@26.50; No. 3, $23@24.50. Clover mixed hay: Light mixed, $26@26.50; No. 1, do., $25@25.50; No. 2, do., $22@23.

Straw.—No. 1 straight rye, $17; No. 2, do., $16@16.50; No. 1 tangled rye, $16; No. 2, do., $15@15.50; No. 1 wheat straw, $14@14.50; No. 2, do., $13@13.50; No. 1 oat straw, $14@14.50; No. 2, do., $13@13.50.

Note.—It is hard to determine the exact total of hay for the local trade coming to this market, as a considerable quantity of the arrivals is probably for export.

Bran.—Offerings were moderate and values were well maintained, but trade was quiet. Quotations (car lots, including sacks):

Soft winter bran, in 100-lb. sacks, per ton, $38.50@39; spring bran, in 100-lb. sacks, per ton, $37@37.50.

Wheat.—No. 2 red, $2.24; No. 3 red, $2.21.

Corn.—No. 2 yellow, $2.20@2.25.

Oats.—No. 2 white, new, 66½@67c.

NEW YORK HAY AND GRAIN

New York City, Oct. 29, 1917.

Feed.—Prices remained strong thruout the list on Saturday, altho nominally unchanged. The demand is understood to be good for city grades, but the supply is plentiful and mills are finding no difficulty in meeting this inquiry. Western qualities are probably the firmest on the list. The production is gradually being reduced, according to the reports coming thru, and no concessions are available. However, the receipts of wheat are fully up to the estimates. Quoted: Western spring in 100-pound sacks, $37.25; standard middling, $43; flour in 100-pound sacks, $51.50 to arrive; red dog to arrive in 100-pound sacks, $63; city feed, bulk bran, $36. Linseed oil meal, $54 per ton.

Hay and Straw.—No change in the situation today. The market is steady to firm thruout. There is no great activity in high grade timothy hay, but only a little of which arriving. Medium and low grades showing most firmness; prices gradually hardening. Some call for clover mixed, of which the supply is limited. Rye straw steady.

Hay.—No. 1, large bales, $24@25; No. 2, $22@23; No. 1 clover mixed, $20.50@21.50.

Straw.—No. 1 rye, $16; oat, $11.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Oct. 29, 1917.

Butter.—Wholesale trade, as usual on the last day of the week, was quiet, but values were well maintained on fine grades of both solid-packed creamery and prints. Unattractive qualities, which comprised the bulk of the supply, were little wanted and irregular in value.

Western fresh, solid-packed creamery, fancy specials, 46½c; extra, 44½c; extra firsts, 44c; firsts, 43½c; seconds, 41@42c; sweet creamery, extra, 45@45½c; under grades, 42@44c; nearby prints, fancy, 48c; average, extras, 46@47c; firsts, 44@45c; seconds, 42@43c; special fancy brands of prints were jobbing at 51@54c.

Cheese.—There was little trading and the market was barely steady with offerings moderate but ample.

New York full cream, fancy, June, 26c; specials higher; do., fresh made, best 24c; do., choice, 23½@23¾c; full cream, fresh made, fair to good, 22½@23c.

ELGIN BUTTER MARKET

Elgin, Ill., Oct. 27, 1917.

Butter.—Offerings at 43 cents.

NEW YORK MILK MARKET

New York City, Oct. 29, 1917.

The surplus continues to plague distributors and producers alike. There are reports that producers who have suffered from the closing of creameries by the distributors have been offering milk in the city at cut rates. It is also reported that the new owners of the company recently acquired by representatives of the Dairymen's League were discovering some of the problems which face distribution where a surplus is present. The Health Department has repeated its assertions that the number of deaths of infants has increased since midsummer because of the use of less milk and of cheaper grades than heretofore owing to the high price. Federal and State heads of food administration have begun conferences with producers and distributors seeking ways to cut down the retail price.

The League rates for November for Grade B (barn score 55) in the 26-cent zone are $3.34 a hundred for 3 percent milk; $3.55, or approximately 7½ cents a quart, for 3.6 percent; and $3.69 for 4 percent. Receipts of milk and cream in 40-quart cans for the week ending October 27 were as follows:

Railroad	Milk	Cream
Erie	37,270	1,276
Susquehanna	4,285	44
West Shore	9,610	897
Lackawanna	48,370	1,672
N. Y. Central (long haul) including Rutland	107,818	2,131
Ontario	31,586	1,345
Lehigh Valley	36,616	422
New Haven	2,861	21
Pennsylvania	9,385	360
Other sources	5,878	160
Totals	293,379	8,328
Same week last year	339,552	10,822

CHICAGO HORSE MARKET

Chicago, Ill., Oct. 29, 1917.

Horses are in much smaller supply than in recent years, and prices are unchanged, with demand equal to the offerings and army horses chiefly wanted. Light and heavy artillery horses are bringing $180, with a few big transporters weighing 1,500 lb. or more taken at $220. Light weight mares for shipment South are taken at $100@110, and a few work horses are going East at $175@200. Horses sell all the way from $60 to 265.

TOBACCO MARKET

Those who took too many chances with the weather lost this time, for never did wintry conditions so persist at this early time of year. Some localities have already noted fifteen to twenty frosty mornings, half a dozen freezes, several light snows and four or five cold waves, all of which has made it quite uncomfortable for those having tobacco left late in the field. Accordingly the man who went in for a crop of suckers (sprouts from early cuttings) or who planted late for any reason, is now of the belief that such chances are not attractive and will not be taken in coming years. In this connection it is well to note the more uniform success of those who push ahead, not alone in their tobacco crop but in all operations and to learn to ignore the advice of the ever-present fellow with the account of some particular instance in which untimely action gave maximum results. Think of the old adage "one swallow does not make a summer". It is a better and wholly logical chance that growers are now taking with reference to future market conditions. So far as reported practically all propositions of buyers are being promptly refused, sellers believing that by holding until stripped and ready for delivery they will get no less, and almost surely more, money as evidenced in the present eagerness on part of buyers. The latter of course are in a mood to predict all sorts of calamity for those who refuse to contract as in past years but this is easily understood and it is believed will be generally ignored. It should be remembered that at all market points values continue high and advancing from week to week.—H. E. Tweed. October 29, 1917.

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Farm Products Prices and Prospects

STATE MARKET BUREAU ADVICES

We are pleased to report this week that the market on the following vegetables—potatoes, cabbage and turnips—is much stronger, and prospects are good for obtaining the farmer a fair price for what he raised this year. The potato market has been greatly strengthened by a shortage of cars, and a still more serious problem, shortage of labor, so that the demand is far is excess of the supply. This is true to some extent of the cabbage crop. Cabbage that was a drug on the market four weeks ago is now bringing a good price. Turnips are also in greater demand, and can now be sold at profit.

We would suggest to the readers of Pennsylvania Farmer that you keep constantly in touch with the Bureau of Markets. We will be able to give you assistance either by way of making direct sales, or putting you in touch with a buyer. We would also be pleased to have those that desire to purchase farm products keep in touch with this office.

This week we would especially call your attention the hay market. Many tons of old hay were left over from last year because of the poor demand and low price. Baled hay is now bringing from $10 to $14 per ton f.o.b. shipping point. No. 1 hay is bringing even a better price. We hope to be able to give the farmer some valuable assistance in marketing this crop.—E. B. Dorsett, Harrisburg, October 20, 1917.

HOARDING POTATOES

The information has come out from Washington that potato blight, combined with lack of fertilizer and unfavorable weather conditions, has cut the estimated harvest of potatoes by 50,000,000 bushels, and there is to be a serious scarcity in this essential food during the coming winter. In spite of that fact, however, Chicago papers are complaining, apparently on behalf of the food administration of the state, that the growers are storing their crops and hoarding for future prices, refusing to sell for anything less than $1.50 a bushel. A potato expert purporting to have represented the Illinois State Food Administration is reported to have returned from a trip from the Minnesota fields, finding that the farmers are filling great potato cellars as well as renting space in storage houses and are putting away thousands of bushels of potatoes to await a higher price; and that is set down as a grievous offense.

It would seem, if a shortage is anticipated as certain, that this might be deemed the part of wisdom, to take care of the stock now in the hands of those who are interested in keeping it in good order, instead of forcing it on the market all at one time, when there is apparently enough food of this kind to satisfy present needs. It seems to us, as regards this matter of preserving food now in a time of plenty for use in a time of scarcity later on in the season that the food administration officers in the states are rather losing their heads and not using very good judgment. We cannot eat at once all these things grown, and, even if we could, the doing so would be wasteful and could not protect us against our hunger next May, for it is quite likely that there will not be any potatoes in market of a new crop until a year from now. To think as the food administrators apparently do, we are likely to die before a new crop comes on; therefore let us eat our fill today. Why not "consider the ant," or the bee, for instance?—Price Current.

FROST DAMAGE TO CORN TO OCTOBER 1

The situation as to maturity of and frost damage to the corn crop on October 1, as indicated by extensive inquiry thru the field agents of the Bureau of Crop Estimates in the north Central States, including the leading corn states in which that crop has suffered frost damage. The states named contain fifty percent of the corn acreage of the United States. The seriously frosted corn in other states, according to the reports of the field agents, can hardly reach 1,000,000 acres, being confined largely to the northeastern states, and the total seriously damaged up to October 1 is therefore probably easily within 8,000,000 acres, or about 6.5 percent of the whole.

The frost damage was very spotted and while in most affected areas the low spots suffered worst, in others, and particularly in Iowa, many of the lowest spots were protected by a fog blanket.

A final report on the total injury, including the percent of the crop frosted at different stages of maturity, will be published in the November Crop Report.—October Crop Report.

CLOVER SEED CROP

Clover seed is short. Government report shows it. It makes October clover seed condition only 71, against 80 last month and 79 a year ago. Acreage is fifth smaller than last year. Ohio, Indiana, Michigan and Wisconsin, the four largest producers, all have a condition of around 70. Crop is late and receipts have been very small. Old seed has been shipped out freely, partly for export. Should prospect for peace improve, foreign demand should be large for both clover and timothy seed.

SAFE MARKETING

The following timely recommendations are made by the Bureau of Markets, United States Department of Agriculture:

"Play Safe" in Disposing of Crops

The farm products now in hand have been produced at an unusual cost per pound or per bushel. Of some crops there is a very large supply, and successful marketing presents a serious problem. This is notably true of potatoes and beans.

The difficulties of disposing of these crops profitably will be greatest in areas which have produced them largely for the first time or where existing marketing agents are no longer equal to handling the output.

Sound business demands that the cost of production be figured as nearly as possible and that the grower "play safe" by selling freely at any price which gives him even a small margin of profit. The farmer should market so gradually that there can be no squeeze or rapid rise in price before spring.

Grade Potatoes

Producers should take great care in digging potatoes that the tubers are not cut and bruised. Great waste results from such defects.

The most successful producers of potatoes do not place large quantities of ungraded stock on the market at harvesting time Such stock serves to glut the fall market and to injure the winter market. Nor do such producers ship cull potatoes which usually will not bring the cost of their transportation.

Many farmers in large shipping sections are using "machine sizers" advantageously. However, the machine can not be expected to grade for quality, which must be done by hand.

By all means, potatoes should be graded. No. 1 and No. 2 grades should not be mixed. The Department of Agriculture and the Food Administration have jointly recommended potato grades which are now available to the public as Markets Document No. 7, United States Department of Agriculture. A summary of these grades is published in this issue of the Weekly News Letter.

CROPS BADLY DAMAGED BY FROST

The potatoes, corn and buckwheat crops of Pennsylvania will fall far below the flattering predictions for bumper crops which were made during the past few months, as the frosts of September 10 and 11 have caused serious injury to corn and buckwheat, while potato growers report blight and rot seriously cutting down the potato yield.

In some sections of the state the frosts practically killed all chances of large corn and buckwheat yields. The conditions prior to the early part of September gave every indication of splendid crops, but the early freezing spell has caused a large percentage of the corn to soften and buckwheat has been very badly frozen in spots.

In some sections of Somerset County 95 percent of the corn is reported soft and 40 percent of the buckwheat frozen. In Northumberland County the buckwheat is poor and in Monroe County 50 percent of the corn was damaged, while fogs that hung along the Delaware River flats during the two nights of frost saved the crop in fields in that district.

In Westmoreland County it is reported that some sections show a third of the potatoes affected by rot and the same condition is true in Mercer County where the corn crop is reported in some sections as the poorest in years. Even in Lancaster and Bucks Counties the reports indicate that the lack of cultivation and thinning will cut down the production of corn below the normal in some sections.

In Jefferson County some farmers report that the buckwheat will hardly yield more than seed while in Clarion County the potatoes are reported small and affected by rot. In Indiana County the corn and buckwheat have been greatly damaged and potatoes are rotting due to the wet weather and blight. In Fayette County many potatoes are rotting and the buckwheat is light and will hardly yield more than from ten to twelve bushels to an acre in some sections. In Wayne County three-fourths of the buckwheat was damaged by the frosts and the potato crop is below the average.

Such reports are coming to the Pennsylvania Department of Agriculture from all sections of the state, but the districts that have suffered the most damage are the interior and northern tier counties. Large acreages of wheat and rye have been sown in these sections and with a favorable winter season the largest crops of these two grains is expected next year.

WEIGHTS AND MEASURES

Article	N.Y.	Pa.	Ohio	Mich
		Pounds	per	bu.
Apples	48	50	48	48
Apples, dried	25	25	24	22
Barley	48	47	48	48
Beans, dried	60	60	60	60
Beans, castor	46	46	46	46
Bran	20	20	20	20
Buckwheat	48	48	50	48
Carrots	50	50	50	50
Corn, shelled	56	56	56	56
Corn, ear	70	70	68	70
Corn meal	50	50	48	50
Grass seed, millet	50*	50	50	50
Grass seed, clover	60	60	60	60
Grass seed, timothy	45	45	45	45
Hickory nuts	50	50	50	50
Chestnuts	60	60	60	60
Malt barley	38	38	34	38
Oats	32	32	32	32
Onions	57	50	56	54
Potatoes	60	60	60	60
Potatoes, sweet	54	54	50	56
Peas, dried	60	60	60	60
Pop corn, unshelled	70	70	70	70
Rye	56	56	56	56
Turnips, rutabaga	60	60	60	58
Wheat	60	60	60	60
Black walnuts	50	50	50	50

*New York Laws—"Whenever any commodity specified in this section is sold by the bushel and no special agreement is made by the parties as to the mode of measuring, the bushel shall consist of" above weights

Pennsylvania farmers, in the corn counties particularly, are complaining of scarcity of help to put away their corn. What help the farmers have been able to get has been earning from $3 to $4 a day with board the average being about $2.50 including board.

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Race Horse Cured After Doctors Gave Up

Jacob White of Cold Water, Miss. writes:—"My horse is well. I had her on the race track and she didn't lame a bit. You are the best doctor I ever saw. The best doctors in Tate County said she would not get well; she had the worst splint in the world, but now she is sound again. I can ride her a mile in two minutes and it does not bother her a bit."

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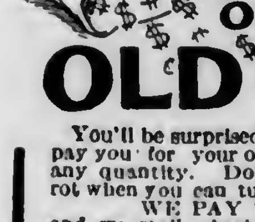

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Veterinary

Conducted by W. C. Fair, V. S.

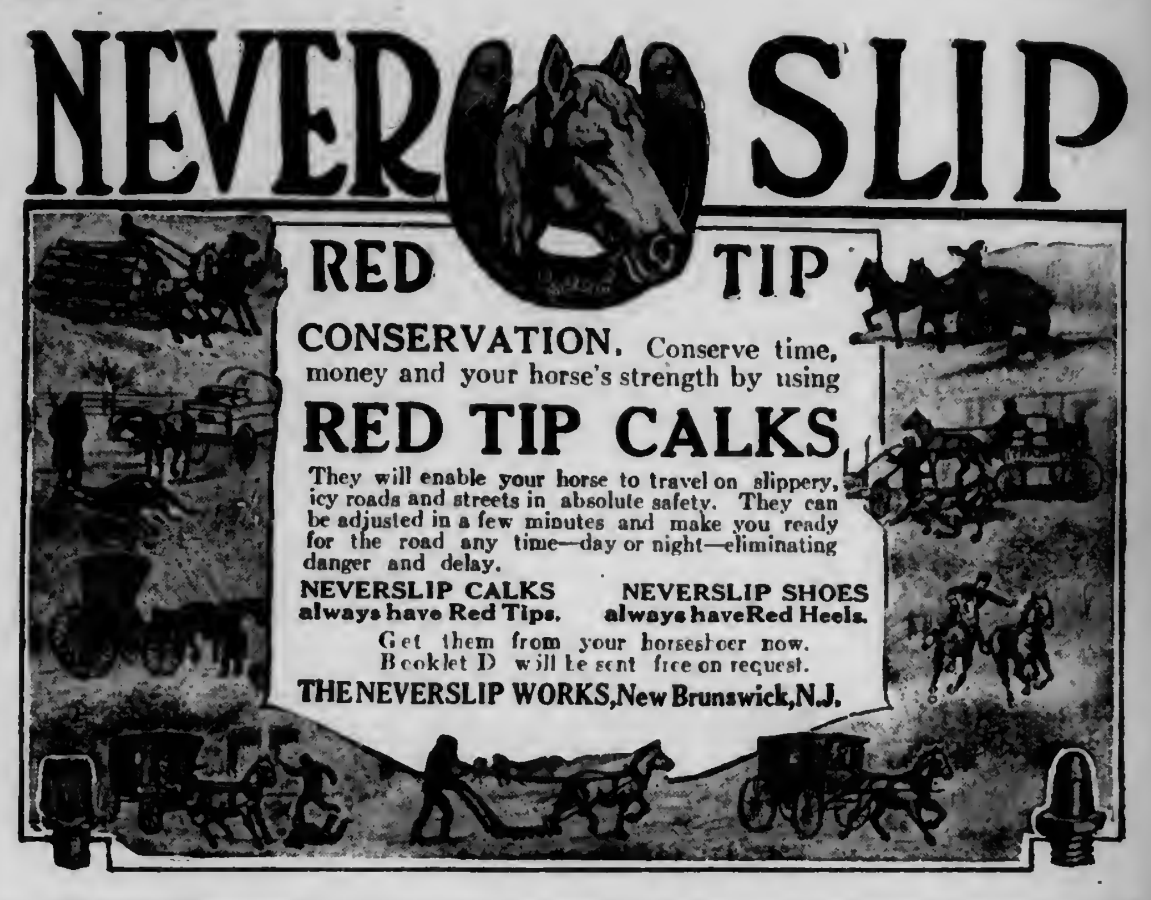
Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Punctured Tendon — Worms. — I have a horse whose fore leg was punctured with a fork, affecting back tendons and causing him to go lame. This horse has been working in the city on hard pavements, and lately has been removed to farm. I have been applying a commercial remedy for sometime without satisfactory results. The tendons are thickened and he is lame all the time. I would also like to know what to give him for worms. B. W., Hopewell, N. J. —You will obtain some results by painting tendons with tincture iodine, three times a week, and it is possible by raising the heel slightly, it will slightly relieve him. Mix together one part powdered sulphate iron, one part salt and four parts ground gentian and give him a tablespoonful at a dose in moist feed, two or three times a day.

Breeding Questions — Feline Distemper.—Last June I purchased a young bull which I am told is not a sure calf getter. How often does a cow come in heat and what is their gestation period? I would also like to know why it is that all the cats that are brought on to this farm die. The trouble starts in their throat. A hard bunch forms. They discharge some from the nose, become dull and dumpish, stagger more or less and then die. J. B. B., Phoenixville, Pa.—Your cows may perhaps suffer from contagious abortion infection, and part or all of them may be shy breeders. Cows usually carry their calves 284 days, and if not pregnant come in heat every twenty-one days. Your bull may be a shy breeder. A competent veterinarian can, after careful examination, tell you whether the fault lies with your cows or bull. Your cats die the result of either feline distemper or diphtheretic sore throat. Both of these ailments are quite fatal. It is quite difficult to eradicate your premises of this infection. I know of no better plan than to keep on stocking up with aged cats, instead of kittens. Then the infection will perhaps die out.

Nasal Abscess—Dairy Question.—I have a cow that was treated for nasal abscess by our local veterinarian and she is much improved, but I would like to know what to give her to help breathing. How long should a cow be milked for the good of herself and offspring before coming fresh? I have a heifer that has been milked for more than a year and am anxious to do best by her and calf. I also have horse with sore back which simple home remedies fail to heal. G. S. L., Pemberton, Md. —Give horse 30 grains of potassium iodide and 1 oz. tincture cinchona at a dose in feed or drinking water, twice daily for 20 days. If cow is thriving, in good flesh, milking well, continue to milk her to within four or five weeks of calving time, but if she is thin and unthrifty dry her soon. Apply equal parts of oxide of zinc, powdered alum and tannic acid to sores on back or shoulder, three times daily.

Indigestion—Open Sore.—I have a mare about 20 years old that had an attack of acute indigestion a few weeks ago, but I succeeded in relieving her. Some ten days ago found her down in stall and unable to get up. Since then she has remained down unless helped on foot. She has an open sore on brisket between forelegs which needs attention. F. H. V., York, Pa.—Give her 1 dr. of fluid extract nux vomica, 1 dr. salicylic acid, and 1 oz. of ground gentian at a dose in feed, three times a day. Feed her one part wheat bran, two parts corn and four parts of ground oats. Also give her plenty of well-cured mixed hay. Apply equal parts of powdered alum, oxide of zinc and boric acid to wound on brisket, twice a day. She should be helped up twice a day.



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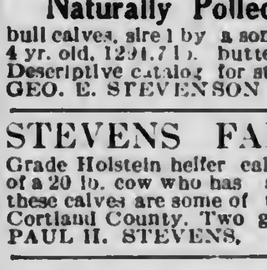

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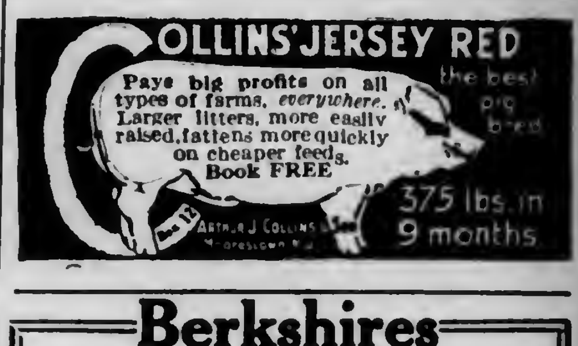

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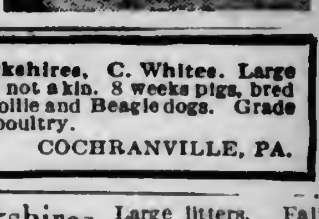

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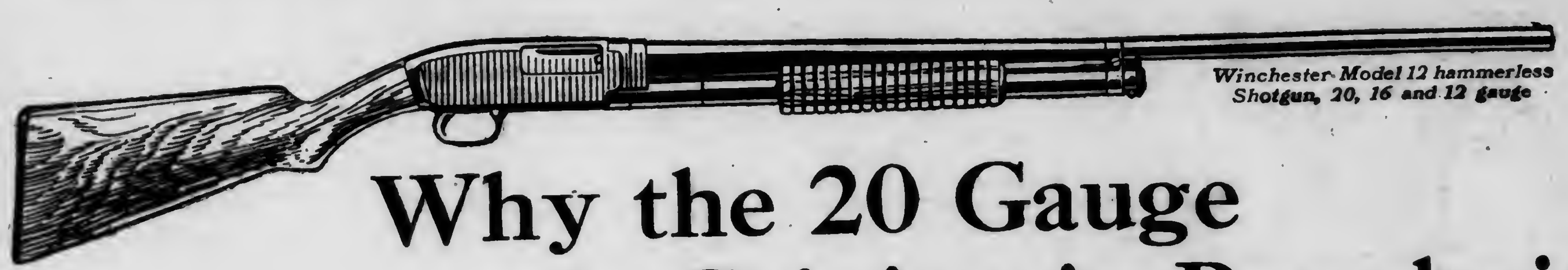


Winchester Model 12 hammerless Shotgun, 20, 16 and 12 gauge

Why the 20 Gauge is Gaining in Popularity

Back in the '90s the 10 gauge was the weapon that had the call among American sportsmen.

But as the game became scarcer, there came a better sense of sportsmanship. The 10 gauge yielded to the 12 gauge.

Today, hunters who are in it for "Sport's Sake" are taking to the light 20 and 16 gauges—the true sportman's guns.

When you carry a 20 gauge, you're *playing the game* and you *earn* every bird you bring down.

Quicker action and better pattern with the 20 gauge

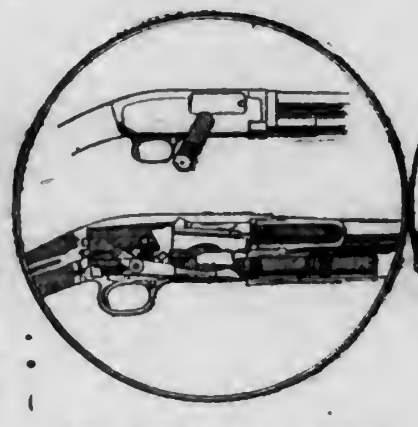
In the hands of a good shot, the 20 gauge has proved almost as effective a field gun as the 12 gauge. This is because in the first place, being lighter, it permits of quicker handling; you get onto your game faster.

Then, too, if you're quick, most of your shots at quail, snipe and prairie chicken will be at from 15 to 25 yards; at these distances the properly bored 20 gauge makes its best pattern, while the 12 gauge does not open up so as to give the shooter the full benefit of its larger load of shot until close to 40 yards.

The 20 gauge then can give you as good a bag as a 12 gauge if you handle it fast and get onto your game quickly. It's a sportier gun to work with.

A gun that few sportsmen can resist

The nicely balanced Model 12, Winchester 20 gauge with its slim, graceful barrel is a beautiful weapon and has a fascination about it few sportsmen can resist.



Quick feeder, sure ejector. Throws empty shell to the side out of your way.

Dense, even, hard hitting, quick opening pattern of the Winchester 20 gauge.

It works smoothly in whatever position it is held.

A man who has used this Model 12, 20 gauge Winchester; or its duplicate in the Model 97, 16 gauge—for those whose prefer a hammer action gun—for a few days of shooting, finds it hard to go back to his heavier 12 gauge.

The barrel *is* the gun

Men who know guns realize that the accuracy and durability of a gun lie in the barrel. On the quality of the barrel depends the quality of the gun There is absolutely no difference in the standard of quality of the barrels on the highest or lowest priced Winchester guns. With Winchester the barrel *is* the gun and the single standard of quality has been attained only by the most unremitting attention to the boring, finishing and testing of the barrel.

Home Defense Leagues!

We have a Winchester for County and Home Defense Leagues which is meeting with universal approval. Many Home Defense Leagues throughout the United States have already been equipped with this gun.

The Winchester barrel

The barrels of the Winchester Models 12 and 97 have been scientifically bored to micrometer measurements for the pattern they are meant to make. The degree of choke exactly offsets the tendency of the shot to spread. Until the pattern proves up to Winchester standard, the guns cannot leave the factory.

The Nickel Steel construction preserves the original accuracy forever. The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a distinctive blue finish that, with proper care, will last a lifetime.

What WP means

This mark on the barrel means *Viewed and Proved Winchester.* This stamp stands for Winchester's guarantee of quality, with fifty years of the best gun-making reputation behind it.

Every gun that bears the name "Winchester" and that is marked with the Winchester Viewed and Proved stamp has been fired many times for smooth action and accuracy, and with excess loads for strength. At every stage of Winchester manufacture machine production is supplemented by human craftsmanship. It is a *test and adjustment process.*

It is this care in manufacturing that has produced in these two light gauge models, guns that have won the admiration of all true sportsmen who follow *Sport for Sport's Sake.*

Write for details of Winchester shotguns, rifles and ammunition

The Winchester catalog is an encyclopedia on shotguns, rifles and ammunition. Every hunter should have one. It gives detailed specifications of the model 12 and describes at length the principles on which every one of the world-famous Winchester rifles and shotguns is built. Write today. We will mail you a copy free, postpaid.

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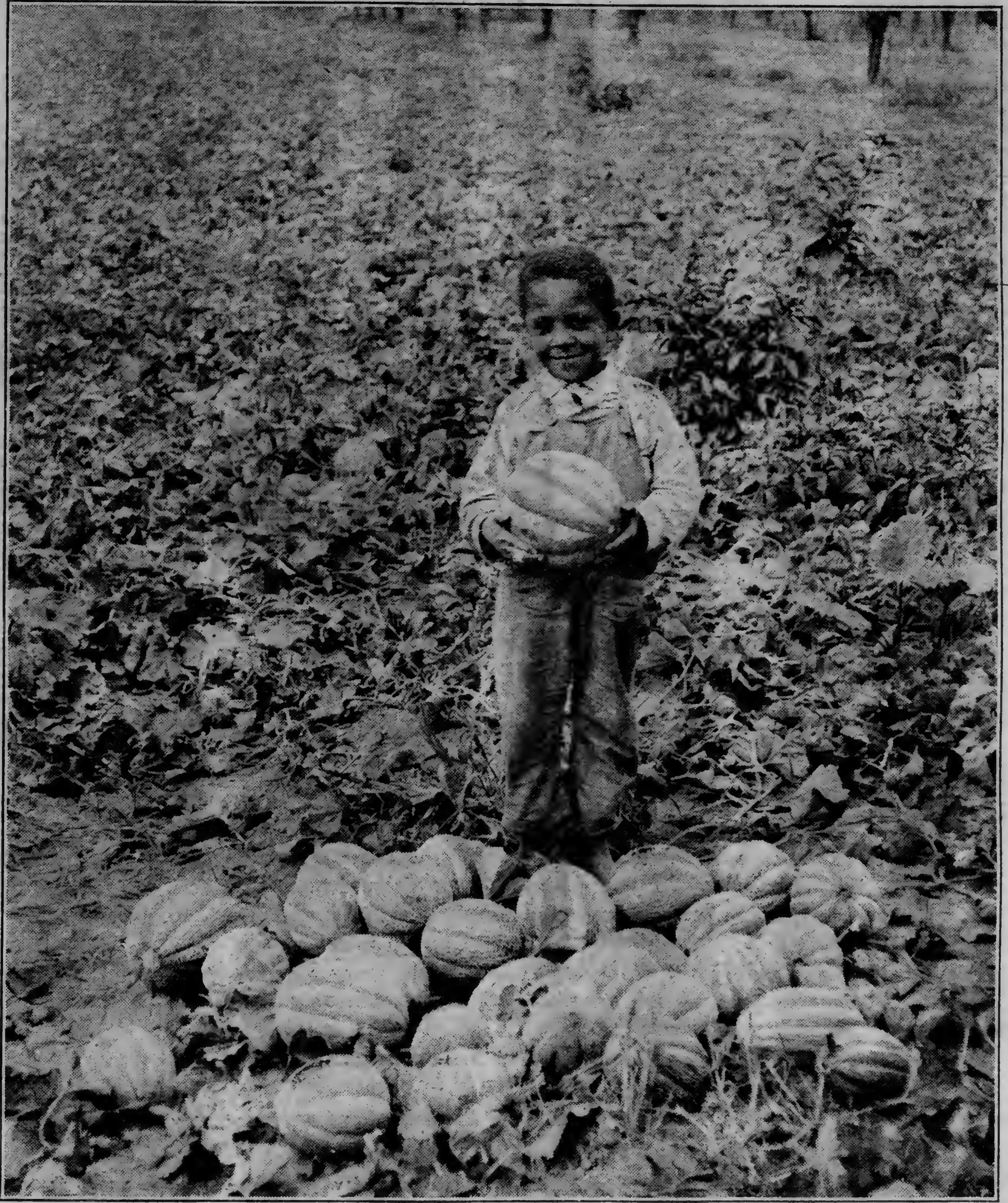

PHILADELPHIA, PA., SATURDAY, NOVEMBER 10, 1917

Shortly after Gov. Pennypacker's death, a number of prominent Pennsylvanians, including Gov. Brumbaugh, George Wharton Pepper, Mayer Sulzberger, Hampton L. Carson and others, united in signing the following letter:

To the Family of the Hon. Samuel W. Pennypacker:

It is now a matter of public knowledge that the late Governor Pennypacker wrote for publication an Autobiography.

Of the existence of this work he had often spoken to his friends.

A fear exists on the part of the latter that a desire to avoid controversy or the possible injury to some one's feelings may tempt his family to consider having the manuscript edited.

His friends and associates whose signatures are appended feel that they owe it to his family, to the institutions with which he was connected and to his memory to urge that this be not done.

Unaltered, unexpurgated and unedited, Governor Pennypacker's Autobiography constitutes an invaluable historical document of increasing public interest, perhaps his greatest contribution to the history of the State. And it is in the name of the citizens of Pennsylvania, living and to come, that we urge his family to print his Autobiography exactly as it was written.

BEYOND the verification of certain dates, titles, names and occasionally a minor incident—all of which would have been done by the author himself had not illness and death prevented—there has been no such editing as the signers of the letter above perhaps feared might occur.

Whatever or whoever may be maimed, the book goes forth **as it was written.**

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GOV. PENNYPACKER'S
Autobiography

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Governor Pennypacker's remarkable memory and his intimate knowledge of men and conditions throughout the State frequently brought discomfiture to his political opponents. That memory, re-enforced by the notes that he kept through the half-century of his public career, enabled him to re-create with vivid accuracy interesting scenes and personalities of every decade from 1860 to 1916.

The autobiography will prove of absorbing interest to every Pennsylvanian, regardless of the reader's personal bias toward the men and measures that come within range of the late Governor's far-reaching and uncompromising reminiscence.

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The Lawrence
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Vol. 42—No. 19. PHILADELPHIA, PA., SATURDAY, NOVEMBER 10, 1917. 75 Cents per Year

Sheep Raising for Eastern Farms

Systems of Sheep Raising Best Suited to Eastern Conditions

By B. O. SEVERSON

Sheep are needed on eastern farms, and particularly on Pennsylvania farms. This need is for the utilization of our vast area of grazing land to which sheep raising, as a major farm undertaking, is adapted. Then, too, the maintenance of small flocks on farms intensely cultivated furnishes a means of preventing waste and returning the farmer a profit for their keep as a by-product to his business. The farmer in the future will realize more and more that the by-products of farming will be necessary. He will learn this in the same way that the packing and other industries have learned to use their by-products.

Sheep are adapted to a great variation of farming conditions and practice. In Great Britain, there are 823 sheep per square mile in proportion to lands in crops. The United States has only 97 sheep for a similar area. The largest numbers of sheep in Great Britain are found in her richest agricultural areas. In the United States, they are found mostly on her least valuable areas. To both conditions, however, sheep are adapted and profitable, which suggests the possibilities of the sheep industry in all of its phases to Pennsylvania conditions.

Our Resources

Pennsylvania is varied in her agricultural resources. The richest agricultural county in the United States is within her borders, and a vast area of more than 10,000,000 acres is not farmed at all. Even in the farms of this state, 32 percent of their area is unimproved, a total of 5,893,313 acres. Considering the fact that practically every farmer uses his meadows to some extent for pasture, Pennsylvania has many millions of acres adapted for pasturing purposes, and only for this purpose. How can these lands be used? There is only one answer, and that is they must be grazed by live stock. The grazing animals naturally adapted to it are sheep and cattle. Of these are found [illegible]5,000 sheep, only 47 percent of the number possessed in 1840, and 1,646,000 cattle of which 980,000 are dairy cattle and located mainly on the more intensely cultivated areas. It is, therefore, evident that a vast area of grazing land is not utilized.

Are there any other factors that prevent the development of these grazing lands? We raise the feeds and forage crops that furnish the winter's maintenance for this kind of live stock with more than 3,250,000 acres of hay and 1,250,000 acres of corn raised annually. The feed problem does not prevent the development of sheep or other grazing animals in Pennsylvania. Is it our markets? We have the best markets in the world, they are within or at our doors. The climate and soil conditions are ideally suited. Sheep require and do better on land that is high and well drained than on land that is low and moist which causes the development of the parasites that destroy sheep. A class study of the most successful sheep raising sections of the world bear out this statement.

Delaine Merino Ewes Crossed with Mutton Rams Produce Excellent Lambs

Shropshire Ewes Used in Maintenance Experiment at Penna. State College

More Sheep and Cattle a General Need on Eastern Farms

Causes of Decline

The reason sheep are found in such small numbers on Pennsylvania farms is mainly due to their extensive production on cheap grazing lands of the West, resulting in over-production and low prices of wool and mutton. Other factors were involved, such as the dogs, tariff, parasites, dairying and lack of appreciation of live stock farming as a method of permanent agriculture. These, however, are minor to the first, since for a period the production of wool and mutton was not profitable on farms of the east.

Now, the cheap production of the West is a thing of the past, because settlers have and are taking over the government lands and the large flocks have been reduced. The world shortage of both wool and mutton have removed the tariff as an obstacle. The great necessity is to control the dog nuisance by proper legislation (which was provided by the last session of the legislature) and the effective enforcement of existing laws and an educational system which will enable the farmer to produce and market wool and mutton at a profit. Education and experience in the care, feed and management of sheep are more important than many advocates of increased sheep production are considering.

Sheep have many advantages. They are profitable when properly managed; they fit in as a working unit with general farm practice in using labor and rough feeds to advantage; they destroy weeds, they clean up fence rows and harvest fields, they require cheap equipment, they increase stand of grass when properly grazed, they furnish two cash crops each year, one in the form of mutton and the other from wool, and they conserve soil fertility. These advantages are not sufficient, however, if the farmer does not manage his flock and make sheep raising profitable and a pleasurable part of his farming enterprise. There is nothing that will discourage the sheep raising more among farmers than to have large lamb losses and parasitic infestation. These are, however, easily controlled by the man who can intelligently manage his flock. The advice that old sheepmen give, "Grow into the sheep business, don't go into it", is worth heeding.

Methods of Sheep Raising

A definite plan as to the kind of sheep raising to be practiced must be decided

(Concluded on page 6.)

Is the Farmer Thriftless and Careless?

Some Popular Charges and Figures Refuted.

By C. C. HULSART
NEW JERSEY

On the editorial page of Pennsylvania Farmer of September 22, appears a quotation from some contributor to a daily paper. The writer presents numerous items of waste, some of which will be taken up in this discussion, and winds up by saying: "This tremendous waste amounting to nearly two billion dollars is almost wholly due to thriftless, careless methods on our farms."

Like much of the bosh that is being printed in newspapers about farmers, farm life, and farm management, it is grossly misleading. The audacity of the author of that article is only exceeded by his ignorance. Perhaps the figures offered are mainly true so far as statistics go. Personally I am not long on statistics. I am a little like Josh Billings who says there are three types of liars in this country—liars, d— liars, and statistics.

I have been a farmer all my life, hence feel competent to discuss some of the problems here presented. First, we "waste $40,000,000 a year in the careless handling of eggs". Is the farmer responsible for all this forty million dollars' waste? No! Neither is he responsible for 25 percent of it. However, the eggs are his before he sells them and if he wants to throw one at a dog, whose business is it? Would it not be just as excusable as throwing a dime on a bar-room counter for booze? But there is no danger of any farmer or his wife throwing away good eggs, because good eggs are good money. The waste in eggs occurs after they leave the farmer's hands. Transportation companies destroy many. Delays in transit; delays along the line from producer to consumer, cause fresh eggs to become stale or rotten.

"We waste $500,000,000 annually in soil erosion." Who knows we do? Why does not the writer tell us how it can be overcome by means within our reach? Erosions will always occur on cultivated land that is hilly. The only way to even partially prevent it is to grow cover crops. These, however, are effective only during the fall and winter. When heavy rains occur during the growing season, washing will always occur on hilly land.

I cannot take up these accusations separately and discuss them. It would require a whole Pennsylvania Farmer, but I must mention the one that refers to "fruits and vegetables wasted on farms that could be canned at home at a total saving of $100,000,000". Who is going to do the canning? The reason it is wasted (what is wasted) is because there is not enough available help to take care of it. Then, too, is an intelligent farmer going to try and do something he knows nothing about for the purpose of becoming a competitor against his own product packed in an up-to-date canning establishment? First, he could not compete; second, he would not if he could.

"Our annual bill for not taking the right care of farm implements amounts to $25,000,000." That is the most deserved criticism of the lot, and I wonder if there is not considerable truth in it. Some farmers are very, very careless about storage of farm tools and machinery. Would it not be a good time now to look around before cold weather sets in and see if all tools and machinery are cleaned, oiled and put away?

The last accusation, that we lose $250,000,000 on neglect of fences, roads and farm buildings, is grossly exaggerated. The farmer who loses on farm fences is he who maintains fences. About here, no fences are maintained on any farm except where cows are pastured. Why fence the whole farm because father and grandfather did so? The modern farmer has nothing to fence, for or against, except his own stock. On my farm two small fields only are fenced—not another panel is maintained. Why should there be? There is nothing to fence out, and nothing to fence in. As to farm buildings, many need paint but there is a reason for their not being painted, and that reason is lack of funds. It may be a man who is trying to farm but is not a farmer. It may be an old man who has worn his strength out on a poor farm without accomplishing much, or it may be a young man struggling to make a start. In either case it is lack of funds.

Quoting further: "And all this is almost wholly due to thriftless, careless methods of our farmers." Now if these accusations were true, farmers could stand the financial strain. The fact is, however, that 95 percent of all other business fails, while not over 10 percent of farmers fail.

The evident purpose in these accusations is, as are many similar articles, to try to push the farmer to further efforts whether they pay him or not, so that now producers can secure cheaper food stuffs regardless of whether the farmer produces it at a profit or at a loss.

The farmers, as a class, are the most frugal of any class without exception. They are so, not always by choice, but by force of necessity. The whole trouble seems to be that food stuff is high and everybody is trying to remedy the trouble. However, it is not yet high enough to the farmer to allow him to pay a wage equal to other business, and until it is, no one has any right to find fault with the farmer. He carried his load alone for many years Now all classes are feeling it.

Where Peace and Plenty Abound

Controlling Grain Moth and Bean Weevils

Many thousands of dollars' worth of stored grains, beans and peas are lost annually from attacks of insects. This injury can be largely prevented by fumigating these products in accordance with the following directions.

What to Use.—Carbon bi-sulphide is the standard material for this purpose. It is a colorless liquid which vaporizes upon exposure to the air, giving off a gas which is heavier than air. This gas settles down into the grain, displacing the air, and is fatal to all insect life, without injuring the grain for either human consumption or seed purposes. It may be obtained from druggists or wholesale drug dealers at a price varying from about 17 to 35 cents per pound (pint).

Where to Fumigate.—It is essential that the grain or other products to be fumigated be placed in a tightly closed room, bin or other receptacle. For small amounts a barrel or tight box is quite satisfactory. All cracks or knot-holes in the floor or sides of the room, bin or receptacle should be covered over to prevent the gas from escaping. If a barrel or other vessel with an open top must be used, it can be made fairly tight by placing blankets or canvas tightly over the top, providing the bottom and sides are airtight. Fumigating in an open crib is a waste of time and material.

When to Fumigate.—Fumigate only on a fairly warm day when the temperature is 60 degrees F. or above. The insects are more active on warm days, and are more readily killed then than on cool days when they are not active and breathe but little.

Amount to Use.—For about 1,000 cubic feet of space (or 800 bushels) use from five to eight pounds (or pints) of carbon bi-sulphide, depending upon the tightness of the bin or receptacle. If it is not air-tight or practically so, or if the temperature is below 60 degrees F., use a much larger amount of carbon bi-sulphide; there is no danger of using too much. For a tight barrel an average dose of about one-half teacupful is sufficient if the top of the barrel is tightly covered.

How to Use.—The carbon bi-sulphide may be poured directly upon the grain or seed without injuring it for planting purposes. For fumigating large amounts of grain in the bin, saturate burlap sacks of cotton waste and shove these into the grain a foot or two below the surface; in this way the gas will diffuse more thoroly thru the grain. For deep bins apply the material to the center of the bin by pouring it down thru the pipe which has been pushed down into the grain. After the material has been poured down into the pipe pull out the pipe. Leave the bin or receptacle closed for from twenty-four to thirty-six hours. There is sometimes danger from the infected grain heating after being fumigated if the infestation has been serious; therefore, shift the grain by shoveling it over, and air it out.

Caution.—Carbon bi-sulphide is highly inflammable; therefore, make the application in daylight and do not bring fire or flame of any kind (such as a lighted match, pipe, cigar or lantern) near the gas. As little as possible of the gas should be breathed because, altho it is not necessarily fatal to human life, it is liable to nauseate one if very much of it is inhaled.

Angoumois Grain Moth

The original infestation occurs during the summer while the grain is still in the field. The moths lay their eggs on the ripe heads if the grain is still in the field or on the wheat in stacks if it is already harvested. The grubs hatch from these eggs, eat their way into the grain and remain inside feeding there. During a warm fall they may become full grown before winter and transformed within the grain to pupae, from which the moths emerge. The moths push their way out of the grain and lay their eggs on the outside of the kernels. These eggs hatch if the weather is warm enough and again eat their way into the grain. If conditions are favorable, such as is often the case when the grain is stored in bins in barns, reproduction continues thruout the year, several generations being produced. The moths of the last generation hatch during the latter part of spring or in early summer. These resemble the common clothes moths often found in houses, being of a yellowish or buff color slightly marked with black, and have narrow wings which when open measure about three-fourths of an inch across.

Bean and Pea Weevils

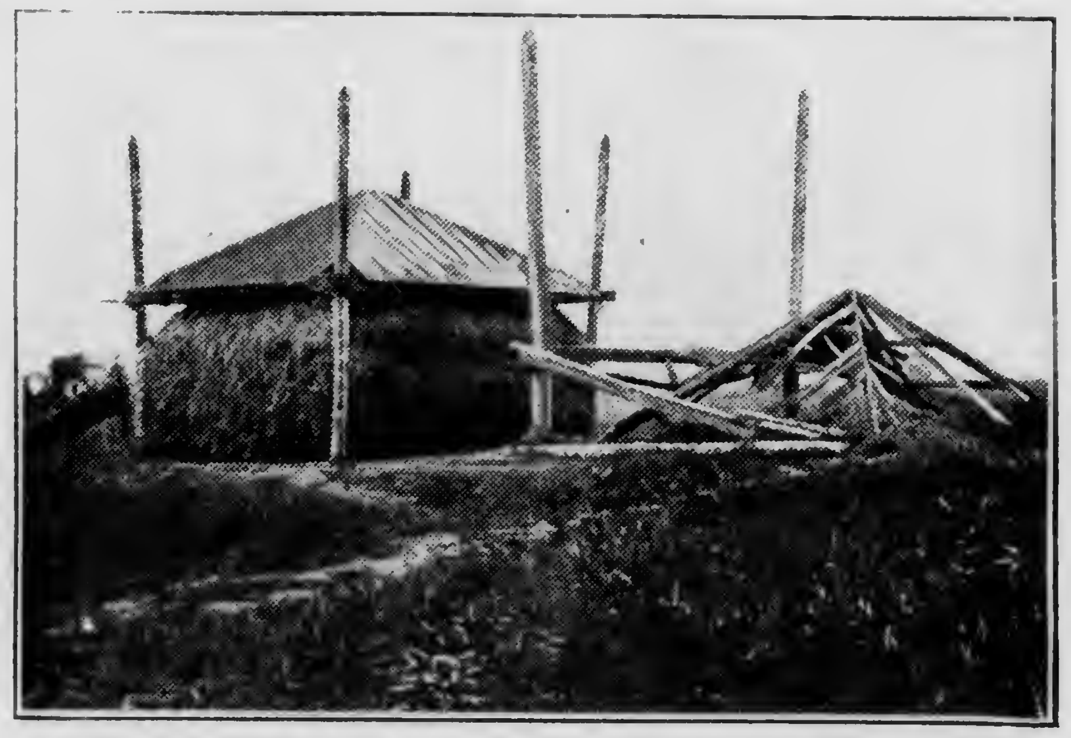
There are several species of weevils infesting different varieties of beans and peas, but in general their life histories are similar. As is the case with the Angoumois grain moth, the eggs are laid in the field, either upon or inserted in the pods thru holes made by the female beetles or thru such openings as are made by the drying or splitting of the pods. The maggots hatching from the eggs work their way into the seed and develop there. The insect passes thru its successive stages inside the seed, appearing as the adult beetle in from twenty to eighty days, depending upon the season and locality. The beetles eat their way out of the seed and lay their eggs on the seeds or loosely along them. Reproduction goes on during the winter, and the number of generations occurring will vary according to climatic conditions. Practically all varieties of beans and peas are susceptible to infestation. In choosing beans or peas for seed, those infested by the insects should be discarded.—Extension Department, Pennsylvania State College.

Plan Repairs to Buildings

In response to the National appeal for greater production of the staple crops during the present crisis, farmers everywhere have increased their usual plantings of winter grain. While on a recent trip thru the farming sections of New Jersey and parts of Pennsylvania, I met many farmers who had planted from fifty to one hundred percent more wheat and rye.

When these crops ripen and are harvested next July, it is important that sufficient storage room be had to accommodate them. Of course, stacks may be used, but barracks are much better if either must be used. Everywhere I saw barracks falling to pieces, which may be put in shape with little expense outside of labor. Occasionally a clap-board on the mow comes loose and shingles are blown from the roof by storms. The water blowing thru such holes may cause the loss of a bushel or two of grain and a proportionate amount of straw.

Farmers would do well to include in their plans for winter work, a few days to make repairs about buildings and getting barracks in shape so that no time may be lost next summer during the rush of harvest.—John H. Voorhees.



Hand Barracks in Need of Repair. The Tenant on This Farm Pays $1,200 A Year Rent

Sinking Water into the Subsoil

A very interesting experiment was made some time ago on a field which shows what can be done, under certain geological conditions, to convert worthless land into a productive condition.

About three years ago, this four-acre tract was practically worthless because at most times it was covered with from six to twelve inches of water. Then when it did dry out the stiff clay soil puddled and became so hard that it could not be worked. A man was hired to try out shattering the subsoil with dynamite. He made no attempt at uniform subsoiling all over the field but spaced his shots at varying distances and depths in order to see what the best distance was and also because there was more water in some places. The shots were placed from 8 to 20 feet apart and from 2 to 3 sticks of forty percent dynamite used in each. The dynamite was put into the ground about six feet. This was exploded with cap and fuse and gave good results.

This field is now producing the best clover and that tho it has been three years since the work was done. There is now no trouble from too much water at any time; also there has been no puddling and baking of the soil since the blasting was done—G. G. M., Michigan.

SOIL ACIDITY A MISNOMER

To speak of soils that need lime as being "acid" is not correct, in the opinion of Ohio Experiment Station chemists, who have found only in exceptional cases the faintest trace of acid in soils by treatment with water. So-called soil "acidity" is a negative property, they say, due to the absence of basic calcium and magnesium and not to the presence of acids.

If any true acid is present, they consider it so insoluble as to have little effect on crop growth. Leaching and crop production cause a gradual loss of the natural supply of bases (calcium and magnesium) in the soil. A deficiency of these basic elements accounts for relatively low crop yields. When they are supplied by liming, increases in crop yields follow if other conditions are favorable.

By the Way

By
Father Penn

We are passing thru experiences which are developing some new ideas and new functions of government. They are new in practice, at least so far as this government is concerned. I refer to the growing conception of the responsibilities of the individual and his possessions to the government. On the other hand, they are not new since the principles of communism are as old as the human race, and the newer idea of socialism has its adherents by the tens of thousands in every country.

The stern necessities of war times makes necessary the subjection of the individual, his talents and his property to the public's use. In other words, the common welfare is the supremely important thing and the individual must contribute anything—and if necessary, everything—demanded to that end. No one is permitted to indulge his purely selfish purposes or ambitions when they interfere with or jeopardize the common welfare.

However much men may differ as to the methods to be used for reaching a given object, their good judgment and native honesty enables the vast majority to see the righteousness of enforced contribution to public necessity, especially when the public necessity is great. This has not been the spirit nor the prevailing practice in normal times. It has been the common practice under normal conditions for every one to secure all he could and use it as he pleased, contribute to the general welfare thru general taxes, and by voluntary donations and contributions to charity only as he felt inclined. There has been little or no effort to interfere with what has been known as "a man's private business". The farthest step heretofore taken has been in the direction of the control or regulation of "big business".

There is no question but what many changes in business methods will transpire as a result of the war. Dr. Shadwell has pointedly expressed it in these words: "This war is a volcano in which all the political, social and economic elements of our life are seething and boiling under the crust, preparing for a great eruption in which the old order will pass away for good". If this is a true prophecy, what will be the nature of the new order? Will it be the socialist's idea of common ownership of land and the single tax, or will it be a greatly extended application of the principle already begun—government control and regulation of all business?

How will the farmer be affected by the possible changes in this direction? He, no less than other business men, has felt independent of the public and that it was nobody's business how his farm was conducted, what he did with his produce, or how much he raised. I know this is a delicate subject and that most farmers will prefer to retain their former ideals, but so do men in other lines. In spite of our natural opposition to such changes and the seeming loss of individuality and the encroachment upon "our right", the line of progress is in the direction of greater contribution from the individual to the general welfare. It is likely that the common good will be better recognized and provided for by a re-directing of individual effort; that the owners of natural resources and public necessities—the owners of the coal, the forests, the water rights, the productive soil, the railroads (so long as we retain the right of private ownership)—will be considered as stewards of these things, and that they must be so managed as to contribute most and best to the public needs.

Such changes and advances in the economic and social worlds must be made if we are to "make the world safe for democracy". Autocracy in every form and in every land must disappear from the earth. No man, either by an assumed "divine right" or by his possessions, should have in his hands the power of life and death over his fellow men. We must learn anew the "inalienable rights" of man, among which are "life, liberty and the pursuit of happiness". The common struggle and sufferings of the present experience will tend to make the whole world akin, and the heroic democracy born of the trial will make men unwilling to bear unjust burdens, as we hope it will make them unwilling to impose them.

Local Exhibitions

Just as a community livestock show will indicate the character of the live stock and to a large extent be an index of the character of the people in that community, so will a farm products show, if conducted intelligently, not only be a good index to the interest in agriculture and kinds of crops grown in a community but will also in a large measure reflect the grower's knowledge of the crops he is exhibiting.

The common notion that winning in a competitive exhibit of farm products is simply a matter of one exhibitor out-guessing another as to what the judge will favor, or that there is no relation between a good exhibit, a good yield and good farming, is erroneous.

It is impossible to find 10 perfect ears of corn of good size if the crop has been poor. Neither is it possible to find a box or even a plate of perfect apples if the grower has not given the proper attention to spraying and other care of the orchard. In other words, to win in a show conducted along proper lines and presided over by competent judges, the exhibitor must start the season before to prepare for a good yield. Here is where the educational value of a farm products show is brought out. For, in order to produce a crop that will have the maximum number of individuals of the highest perfection, the grower must familiarize himself with all the requirements for high yield and high quality, and the result is that he begins to study the crop and its requirements from the bottom up.

Since the standards for judging take into consideration commercial requirements as well as the type which will give good quality and the maximum yield in the community in which it is grown, it is obvious that only exhibits of the best varieties with the required type and quality can win An exhibit of corn which is well adapted to the northern section of Pennsylvania cannot compete with corn in the southern part of the state regardless of how perfect it may be

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Live Stock

SHEEP RAISING FOR EASTERN FARMS

(Continued from page 3.)

upon. In making this decision, the following conditions should be considered: The kind of farming practiced, intensive or extensive; the amount of grazing lands and crops available; the marketing facilities; the breed of sheep best adapted; experienced labor in handling the flock and the breeding of purebred sheep or producing wool and mutton. These and other factors should be considered when deciding on the following methods of sheep raising.

Production of March Lambs

This is the common method for the average farm and purebred flocks of mutton breeds. The ewes are bred during the month of October and lambs are born in March. Such lambs are ready for market from July to September 1, depending upon the amount of grain fed. This method necessitates some grain feeding to the ewes and lambs for best results. The lambing season comes at that season of the year when plenty of time can be given to the flock. It must be remembered in all methods of sheep raising, "that lambing time is the shepherd's harvest". Especially is this method recommended for the general farm flock of 25 to 50 ewes on the average farm.

Early Lambs

By the production of early lambs is meant lambs that are dropped in time to be fitted for market by Easter. This is a profitable method in the hands of the man who is well equipped with experience in raising and fattening lambs, has warm sheep barns, plenty of grain feeds, good roughages like clover, alfalfa hay, corn silage and roots. It requires the breeding of ewes in July and August, with lambs born in December and January. The breed of sheep selected is important.

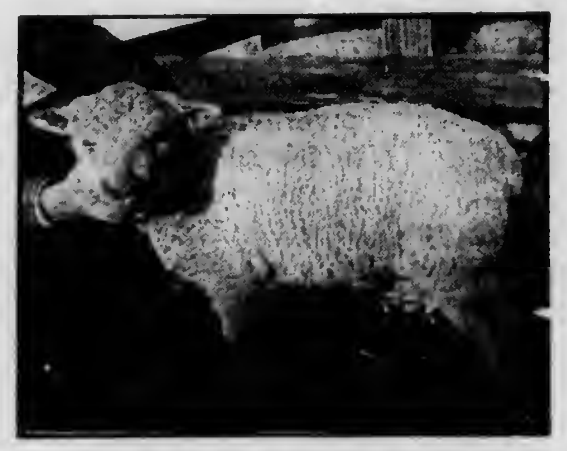
In the first place, a lamb must be produced that will carry a high condition of flesh when 45 to 60 pounds in weight, and only strong, vigorous, good-milking mothers that will breed early can produce them. The Dorset is well adapted to this method, also the Delaine Merino ewes or western ewes possessing some Merino blood, crossed with mutton rams. Most females of mutton breeds will not mate until the cool nights of autumn. The breeds mentioned, including the Tunis, are exceptions and breed at any season of the year. These lambs are usually expressed to commission firms in large cities or marketed in carload lots. This method is adapted to sheep raising as a specialty and to which experience is essential.

Winter or Hothouse Lambs

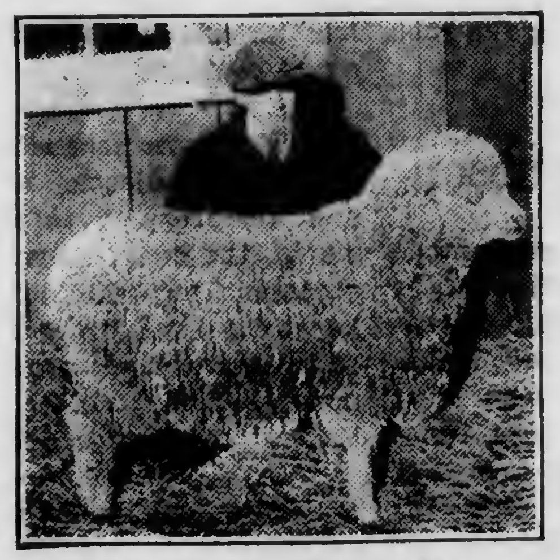
This is a specialty in sheep raising, requiring greater skill in sheep management than any other method. The object is to produce a prime lamb weighing 40 to 60 pounds live weight out of season. Only such breeds as mate in late spring or early summer can be used. These include Dorsets, Tunis and Delaine Merinos, the latter being crossed with mutton rams. The breeding season begins in April and extends thru the summer months. Lambs are born in September and until the latter part of December. These lambs are forced and marketed from December 1 to the middle of April. Profits are usually high, but the market is fluctuating. The grower must be familiar with market conditions and sell his lambs to the best advantage. This method is the most expensive method of sheep raising, requiring the maximum grain feeding of both ewes and lambs, warm and well-ventilated barns and should not be undertaken until experience with sheep has been had first hand.

Late Lambs

This method includes lambs dropped in April and May. It is adapted to large flocks, where grazing land is abundant and where grain is scarce. The flock requires less care on the part of the shepherd when ewes are kept in vigorous condition during the winter; less expensive barns or sheds are necessary and very little grain is needed. The ewes are bred in November and December and are allowed to lamb on pasture in the spring of the year. Ewes of pure Merino breeding are especially adapted to this system. The lambs are disposed of in the late fall or fattened during the winter and shorn in the spring before marketing. This is the least expensive of all methods of sheep raising but not suited to the general flock. Even in this method it is found more profitable to have lambs dropped before the ewes go on pasture in the spring. A lamb that is dropped late never makes the growth and size possessed by an earlier lamb, due likely to too much exercise during its early growth and development.



Smooth Bodied C-Type Delaine Marino Ewe.



A Southdown X Delaine Merino Cross, Brought $12.50 on Eastern Market.

Selecting a Breed

Selection of a breed is important when considering market demands for mutton and wool, their characteristics and their adaptability to different conditions. In the first place, Washington and Greene Counties, Pennsylvania, possess one of the best breeding centers of Delaine Merinos in the United States, a fact that is not realized generally in the state, but is known to many in the western and southwestern states where they are shipped annually in large numbers for breeding purposes. There are many who have contempt for this breed largely because they do not know its merits. They have been prejudiced by rumors of the past that the Delaine Merinos are wool sheep solely, subject to disease like "paper skin", hard to shear and unsightly in appearance as well as unprofitable in every way.

This impression is the result of the Merino, as bred years ago and developed for wool alone. It possessed many folds on its body and was very poor in mutton qualities. In many cases they were intensely inbred, resulting in low vitality which made them especially subject to disease and parasitic infection. Thus the disease "paper skin" became associated with them. Then came the period of low wool prices and these Merinos, exclusively bred for wool production, were a "drug" on the market.

Very few Delaine Merinos of this type exist at present, due to the efforts of breeders of these sheep in Washington and Greene Counties, Pa., and breeders of Ohio and West Virginia. For more than a century, Washington County has been breeding Merinos and developing the mutton character within the breed. The growers as a result have produced a smooth-bodied animal of mutton type, with less weight of wool but a longer fiber and less oil. The Pennsylvania State College experiments show that with 100 percent lambs the annual receipts are 60 percent from mutton and 40 percent from wool for Delaine Merinos, and the breed is as profitable with an equal percentage of lambs as Shropshires.

The business in the wool-growing sheep areas of the world is largely based on Merino blood. The breed possesses characteristics which make the Merinos absolutely essential for conditions where sheep are raised on a large scale and where their characteristics are peculiarly fitted. Some facts concerning the Merino may be summarized as follows:

Merinos flock in large numbers better than any other breed. They can thrive better on pasture without grain. In winter quarters, breeding ewes require little grain. Merino ewes require less careful attention at lambing time than other sheep because their lambs are stronger and thus a higher proportion of lambs are saved. Their denser wool protects them from severe weather conditions of rain and cold. They seem more resistant to parasitic infection. They are longer lived, by an average of one to two years, than the mutton breeds.

The Merinos breed more regularly, earlier and in a shorter period of time than mutton breeds. The Dorset and Tunis in this regard are equally good. Their more dense fleeces do not become as readily filled with chaff and burrs. They cross well with all mutton breeds and produce early maturing lambs when thus crossed. They require less expensive shelter and they can withstand greater heat and poorer pastures than mutton breeds.

Mutton breeds, however, have their advantages and are adapted for small flocks. The fact remains, however, that there is not sufficient breeding stock of these breeds to meet the demand and they are invariably more liable to be infested with parasites when purchased on the market than Merinos or cross-bred Merinos that are largely raised in parasite-free areas. The mutton breeds in general possess the following advantages over the Merinos:

Mutton breeds produce a higher percentage of twin lambs. They are heavier and make greater growth.

They mature earlier. They possess a higher condition of flesh and command about $1 more per hundred on the market. Most mutton breeds are better adapted to low lands than Merinos. They are more attractive. In the hands of experienced sheepmen they are more profitable in farm flocks.

In view of the conditions for Pennsylvania farmers who are interested in sheep raising, the selection of Merino ewes would be a safe one. In sections where sheep are kept largely for grazing, in large flocks and with inexperienced labor, they should be bred pure. For the farm flock, starting with ewes of this breed and crossing with a purebred mutton sire would be a desirable procedure. The flock could be "graded up" in the same way that dairy cattle are "graded up" by means of a purebred sire of a dairy breed.

Co-operation

In order to be successful in sheep raising, the farmer who has a small flock should be able to market his lambs and wool at current prices and not be at the mercy of the country buyer. In order to do this, co-operative associations should be formed. These production associations should be limited to a small territory in order that a uniform product of wool and lambs can be produced. This is accomplished by deciding on a definite method of raising, breeding and feeding of the flock under conditions that are as uniform as possible. In this way the small flock owner could compete with the larger producer who markets his products in carload lots at centralized markets. If several production associations could combine as units of a large co-operative marketing association, the marketing of their wool and mutton could be made even more profitable.

WET BREWERS' GRAINS FOR HOGS AND DAIRY

Reader asks for advice in formulating rations for dairy cows and for hogs, using wet brewers' grains as the base. He has a large supply available at 15 cents per cwt.

Wet brewery grains at fifteen cents per bushel would serve as an excellent basis for a dairy ration, and while they are not especially useful in the feeding of hogs, being rather bulky and unpalatable, at this figure they could be used to considerable advantage. The one grain product that best supplements wet brewery grains in a ration for dairy cattle is corn meal. Naturally this is very high and extravagant in price at the present moment, but if your correspondent has corn that he has produced on the farm, or is able to buy hominy meal at a reasonable figure, a mixture consisting of the following would make a useful ration for cows providing it is supplemented by some legume hay such as alfalfa or clover: 50 lbs. wet brewery grains; 5 lbs. corn meal and 1 lb. oil meal. Cottonseed meal might appropriately replace the oil meal if there is a material difference in the cost price.

It would be necessary to add a little more corn meal in case the wet brewery grains were used in feeding hogs, and the following mixture would serve a useful purpose: 50 lbs. wheat bran; 25 lbs. corn meal; 25 lbs. hominy meal; 10 lbs. digester tankage. The pigs should be fed all that they will clean up twice daily of this mixture, and will not require any other feed.—F. C. Minckler, N. J.

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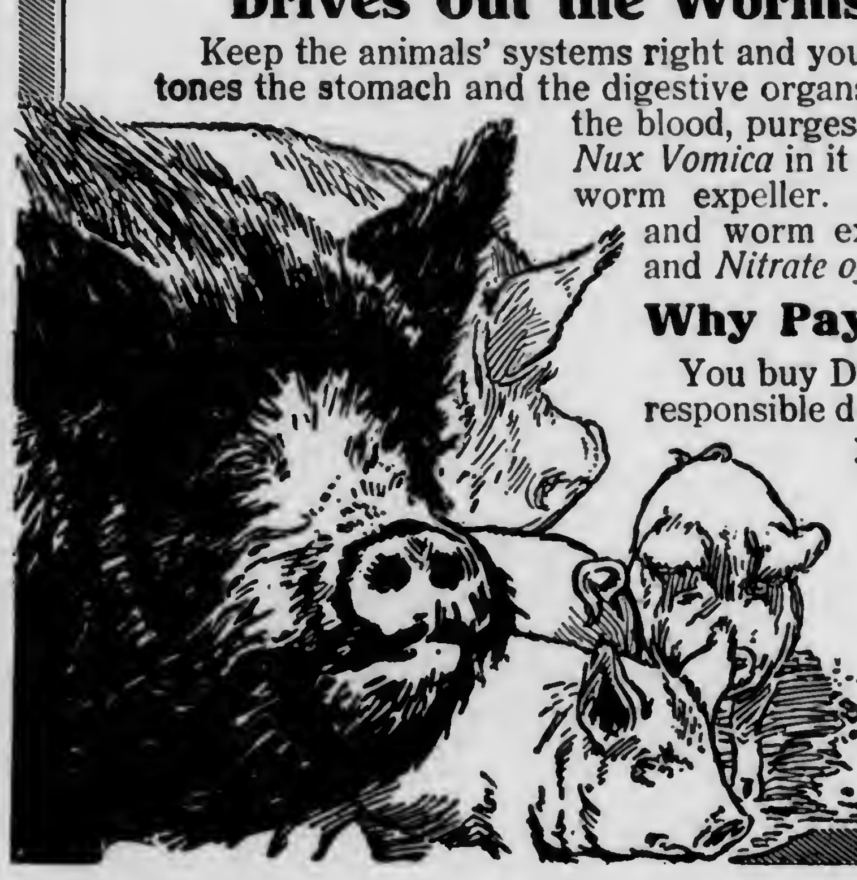

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PHILADELPHIA, PA., NOVEMBER 10, 1917.

County Corn Plan

Bradford County, Pa., under the direction of its county agent is taking steps to insure a supply of seed corn next spring. The early frosts in the northern part of the state damaged the corn crop to such extent that very little of the corn will be fit for seed. Arrangements have been made whereby the farmers of that county will get a supply from a nearby county this fall. The corn will be distributed to the farmers purchasing, and they can look after it during the winter. This arrangement insures a supply of good seed, enables the buyer to care for it as he wants to, and will put the seed where it is needed at the time it is needed. If present predictions that good seed corn will be very high in price next spring hold true, it will also save a nice sum of money for these Bradford County farmers. The plan may well be followed in other counties.

* * *

Home-Cured Meats

Along with the propaganda for home preserving of fruits and vegetables, should go one of equal vigor for home curing of meats on the farm. We have been told so often that the modern packing houses utilize everything but the squeal, that we have come to regard the present methods of handling meats as the acme of efficiency. But in this conclusion we have not computed the cost to the producer and the consumer or the expensive transportation of animals to, and the prepared meats from, the packing houses. A considerable part of this could be saved if the meats were prepared at the farm; and now when there is such a demand for all transportation facilities, there is greater need of home curing. This is a good time to try it out for the home demand at least.

* * *

More Sheep

The article on the first page of this issue discussing sheep raising on Eastern farms should be well read. The propaganda for more sheep in the east as well as for the entire country has resulted in the introduction of new flocks in many sections that have been bare of sheep for many years. But there is little danger of overdoing the business if farmers heed the old advice to "grow into the business and not go into it". The present prices on wool, mutton and lambs are the best argument for more sheep. A portion of the increase in prices must be laid to the war and war conditions. But the shortage of the sheep supply here and abroad is the first cause, and this condition is not to be remedied as soon as the war is over. It will require some years to rebuild the depleted herds, and there are almost certain to be a number of good years for those who build carefully and not too rapidly. And there is good money in sheep under normal conditions if they are handled right. More sheep should be a part of the permanent live stock supply of our eastern states.

* * *

Milk Price

On page 12 of this issue is an announcement of the new milk price schedule just put out by the Interstate Milk Producers' Association. This price is about three-fourths cent higher than the July price. This advance is most modest in view of the difference in the cost of production in summer and winter months. But modesty in price advances is not a prominent fault these days, and conditions in the milk market are such as to call for very careful analysis before price changes are made. The problem of the market, for farmers as well as dealers and consumers, is to maintain that adjustment of cost of production and the price on the finished product that will keep up a permanent supply to meet the existing demand. When the supply begins to decline it is unquestioned evidence that the market price is not high enough to encourage the producers to keep up their herds and buy feed for full production. Receipts have been falling off. Receipts in the Philadelphia market are not available to the general public, but it is safe to assume that they are in accord with the tendency in the New York market as shown by the figures elsewhere on this page. With receipts falling off and no change in the feed price situation, and none in early prospect, there was nothing for the dairymen to do to protect their own interests but advance the price on the milk.

* * *

Market License

With the enforcement of the dealers' license law on November 1 the Federal government exercises the most complete market control ever attempted in this country. By means of the license the U. S. Food Administrator hopes to keep a check on all wholesale and retail dealing and be able to prevent unjust profits. All classes of dealers handling food products in quantities are required to take out licenses. These classes include importers, manufacturers, warehouses, elevators and distributors. There are certain exceptions intended to cover those classes that handle products in small quantities. Thus farmers, gardeners, co-operative associations of farmers or gardeners, including live stock owners and other persons, with respect to the products of any farm, garden or other land owned, leased or cultivated by them are definitely excepted. Small grocers, millers, canners, slaughterers and packers are also excepted.

The first effect of the law will be to check efforts to take advantage of market conditions for personal gain. The fact that company books must be open to inspection in case of suspicion is a check in itself. In some forms of business the new requirement will necessitate a change in methods of keeping records that will simplify the matter of control. Licenses may be revoked at any time by the Food Administrator, preventing the party or parties surrendering licenses from continuing in business. The exact results are problematical, but if it is possible to actually control marketing, this plan should show results during the coming winter months.

* * *

Speculative Profit

With all the talk and activity which has been current during the past few months about food control, prices to the consumer have not tumbled as was hoped. At the outset the food director asked the people to conserve food, and the dealers to co-operate in a patriotic way by adopting the most efficient business methods and by exacting reasonable profits. Dealers in convention and otherwise vociferously professed acceptance of the plans and promised co-operation. But resulting lower prices were not forthcoming, and Mr. Hoover was compelled to exercise the authority vested by the act and set aside the operation of ordinary business laws and demand that prices be fixed upon cost plus a uniform and reasonable profit.

By this act he has struck hard at the cause of inflated prices, and for the first time touched upon a matter which will test the loyalty of food dealers of all classes. Of course, a wail about interfering with the long established law of supply and demand went up, but every one knows that, as a matter of fact, the law of supply and demand never did operate fully and unrestrictedly. But it served as a guise under which men speculated to their heart's content by buying all they could and selling for all they could get. From time immemorial the public has not questioned this right, and it will go hard with a certain class to be curbed. However, the food director is clothed with power to withhold license or to confiscate the goods of those who will not comply, and this new step will mean the almost complete control of food prices.

Critics, however, point to one factor in the food problem which is not under control and which they fear will defeat the ends sought, and that is the producers of food. The farmer, they say, is exempt under the law from such control and accordingly will, if he does not already, take advantage of his opportunity and exact unjust and unreasonable prices. It is up to farmers to prove that such fears are groundless; to show to the world that they are not merciless and over-greedy. There is a chance now for the farmer to prove that when other men deal justly he will do likewise. The business principle of reckoning cost plus a reasonable profit to find a selling price is just, and one which farmers have asked that other business observe for years. The government has generously, and we think justly, left farmers free to sell when and how they choose, and to set their own price so far as government interference is concerned. Will they use that privilege fairly? We have faith that they will. Nothing would so shake the confidence of the public in the farmers' integrity as for them to take advantage of the opportunity to demand unreasonable profits when others, by force of circumstances, are compelled to be reasonable.

* * *

Milk Receipts

Receipts of milk in a given market may mean a number of things. Under normal conditions of demand and price any appreciable decrease in supplies would be taken to indicate that the market price was not paying for the cost of production and that the farmers were either reducing their herds or not feeding to capacity. With greatly increased price of milk it is reasonable to suppose that the demand would decrease somewhat, but under unrestricted law of supply and demand, the receipts would be decreased to adjust themselves to the lesser consumption. Under the present conditions, when all prices are high, including feed, labor and the finished product, and when there is an increased demand for condensed milk and milk products, the reduced receipts must be taken to indicate a combination of all of these conditions.

But whatever the cause, figures on the New York milk market for the past few weeks indicate a decided decline in receipts. In spite of the claims of surplus, made by the dealers, the figures show that receipts have declined from 10 to 20 percent on milk and cream. The following table shows the receipts of milk and cream in 40-quart cans for comparable weeks for the past four years:

Week ending	Milk	Cream
October 21, 1914	323,344	9,855
October 23, 1915	333,481	11,425
October 21, 1916	323,208	8,972
October 22, 1917	295,150	8,027

If we consider the receipts for the week quoted in 1914 as normal and put it at 100 percent, the tendency thru the three years following would be represented as increasing to 103.1 percent on milk and 115 percent on cream in 1915; dropping back to normal or 100 percent on milk and down to 91 percent on cream in 1916, and then making a further drop to 91.2 percent on milk and 81.4 percent on cream in 1917. The figures for the following week each year show a similar result, indicating that the weeks quoted are representative of the season. The receipts in 40-quart cans in weeks comparable with last week were:

Week ending	Milk	Cream
October 27, 1914	317,727	10,895
October 29, 1915	349,220	12,243
October 28, 1916	339,552	10,822
October 27, 1917	293,279	8,323

Putting the receipts for the week in 1914 again at 100 percent it will be noted that the figures show 109.9 percent on milk and 112.3 percent on cream in 1915; 106.8 percent on milk and practically 100 percent on cream in 1916; then down to 92.3 percent on milk and 76.4 percent on cream in 1917. Receipts of milk and cream in the Philadelphia market are not yet available. It can only be inferred that the tendency is much the same in the two markets.

HARRISBURG NOTES

Institute Plans. — Pennsylvania's Farmers' Institutes will start next week, the first being scheduled for Wayne County. Every county will have at least two or three meetings and it is evident that people connected with the state government realize that if ever the institutes were to justify their continuance it will have to be this coming season. The institute speakers are to pay close attention to every question asked by farmers and endeavor to furnish generally any information of value possible. They are also to co-operate with speakers to be furnished by the national government to talk on food conservation and ways of speeding up agricultural production.

Bond Issue for Roads.—It is apparent that what influence the present state administration has left is going to be urged in behalf of the proposed constitutional amendment to borrow 50 million dollars for road improvement. The advocates of this method of financing road building say that in spite of the prospects of further national bond issues there will be a good market for state bonds. It is also contended that in spite of the great increase in state revenue due to the growth of automobile registration, the demands of maintenance, due to war traffic in some sections, will more than swallow it up. The next year will see the test of the proposition.

Market Bureau Limitations.—An opinion from the attorney general's department appears to have settled very definitely that the state, while charging for licenses growing out of supervision of agricultural products, is not authorized to exact any fee or commission for putting farmers and markets, which means consumers, in touch with each other. The question arose whether the new Bureau of Markets had authority to charge a commission for effecting sales. It was promptly held that the bureau was enacted to supply a need in the governmental system and that it should not charge, even tho all revenue would go to the state treasury.

The Milk Report.—The report of the State Milk Commission on the situation in the Pittsburgh district contains not only the suggestion that if the public will drink more milk the farmers will produce it, but that farmers should keep more cows. It is stated that at least one heifer calf out of every five should be kept and that in no case should farmers sell more than 18 percent of such animals.

No Increase in Wheat.—The bulletin of the State Department of Agriculture says that between the weather and the lack of farm labor hopes that Pennsylvania would add materially to its wheat acreage are commencing to fade. There will be an increase, but nothing like the 150,000 acres expected. One of the reasons assigned is that the farmers have been unable to even obtain men to help dig potatoes and to get in late crops, which has prevented some who had announced intention to increase acreage from doing so. The same is true as regards rye.

More Corn Asked.—Secretary of Agriculture Patton has called attention to the prospect that not only will the state be asked to raise more wheat and rye next year, but that a greater acreage than ever of corn will be requested. He urges saving double the usual amount of seed corn. This is largely due to the demand for more acres in corn and seed in those sections where the crop was hit by frost.

Better Draft Plan.—According to what men connected with the draft system say there will be a better arrangement when the second call for men is made and the trouble experienced in regard to classification of those within the draft age will be more or less done away with. The boards will be instructed to find out about their people first and after getting facts to arrange the calls. The belief is expressed that men engaged in agriculture or who are needed on farms may be separated and only taken where absolutely necessary. Apparently the seriousness of the agricultural labor situation is commencing to be realized.

Storage Stock.—As some 10 million dozen of eggs and 10 million pounds of butter now held in cold storage plants of this state are to come out under operation of the state law by Christmas time there is considerable interest being manifested now as to where they will go. By far the greater part of this enormous amount of foodstuffs is concentrated in Philadelphia and Pittsburgh. It is interesting to note in this connection that the number of licenses for sale of oleo in Pennsylvania is already 1,100 more than the total issued last year, the revenue therefrom being correspondingly increased.—Hamilton, Harrisburg, Nov. 5.

NEW YORK LETTER

Men Needed in Dairy Plants. — According to the Cornell College of Agriculture there is apparent an urgent need to make the best use of dairy products everywhere. To do this, men of training are requisite, and there is a marked scarcity of such men. There is a special need of men with a knowledge of best methods of making skim milk products. For a number of months the college has been unable to find enough trained men to fill positions where such men are needed. The college offers a free course of instruction for three months from Nov. 7, 1917 to Feb. 12, 1917, with courses in methods of testing milk, handling market milk, making butter and cheese, intended to fit a man for work in any dairy plant.

Government to Supervise. — New York millers and dealers in flour have received notice of future government supervision over the operation of mills and its later handling on its way to the public. The mills will again resume work as usual, owing to an agreement whereby Canadian hard wheat from the great lakes is to be available for our present demands, to be repaid later when our crop is available.

Cider Mills Closed.—According to leading Onondaga County vinegar manufacturers cider vinegar will be a thing of the past by next June. Very few cider mills opened at all for lack of apples this fall, only a little custom grinding for farmers' home use being done. Factories usually making 5,000 barrels a year are making from not any up to 500 barrels. Pennsylvania and Illinois cider districts report the same condition.

Dean Howe on Farm Board.—Agriculturists in Central New York are gratified over the appointment of Dean Howe of Syracuse College of Agriculture as a member of the State Council of Farms and Markets. Under the new law this council will take over much work now done by local health boards, as well as several other bureaus, having broad powers of administration. The personnel of the board makes it one of the most substantial ever appointed in the state.

Auburn to Have Federal Land Bank.—At the request of twenty farmers of Cayuga County the farm bureau has arranged for a federal land bank in Auburn.

Crop Notes.—The hardest freeze for many years for the time of the year was experienced thruout the state October 31. It was a 48 hours steady, hard freeze which penetrated potato hills, and froze apples and cabbage. Much damage has resulted. Farmers fear that thousands of acres of potatoes will be frozen in for the winter, unless later conditions are much altered. More potatoes are not dug in Central New York than have been dug and frost and rot will destroy a big percentage of the crop. Help is unobtainable in most sections.

Dairy Prices. — The Utica dairy board has made no prices for several weeks, the high retail prices curtailing demand for cheese and butter, making a problem that confronts most of the large dairy boards of the state. Butter has sold recently at 43 cents, altho retail trade and public markets have had upwards of 50c. A producers' marketing association formed for the purpose of holding down retail prices of milk in New York City and composed of 15 farm milk organizations has secured control of two shipping stations and is selling 200,000 qts. of pasteurized milk daily. Grocers buy the milk at 9 cents a quart and retail it at 10 cents. More such organizations are badly needed in all big cities.

Great Horse Show.—The 32nd annual horse show of New York City will be held in Madison Square Garden the week of November 12. The net proceeds of the great event will be donated to the Red Cross.—F.

NEW JERSEY FARM NOTES

New Jersey Short Courses.—Young men and women are offered a three months' practical training in up-to-date agriculture at the State Agricultural College, New Brunswick. Five courses will be offered: General agriculture and dairy farming; fruit growing and market gardening; poultry husbandry, bee husbandry and home economics. The aim of the short courses is to provide a thoro training in the fundamental principles of scientific farming, combined with farm practice. The classes are held at the college farm. The courses open November 19 and continue until February 20, and will be conducted under the direction of Professor Frank G. Helyar, formerly director of the New York State Farm School at Morrisville, New York.

Treasury Balance. — The state government began its new fiscal year last week with a surplus or free balance in the treasury of $2.458,591.21. The cash balance was $6,395,705.22 and the amounts to be deducted from this, represented as due on contracts and requisitions, totalled $3,937,113.94. Included in the outstanding obligations represented in requisitions made on the treasury is the sum of $1,016,947.36, which is for the state road purposes.

Frost Damage. — Reports from South Jersey are to the effect that early frosts wrought havoc among many crops, the only ones escaping as a whole were lettuce, cabbage and turnips. Tons of tomatoes are lying along the Colestown Road and between Colestown and Vincentown in Camden County, thrown there by persons who could not sell to the canneries. On one farm several hundred tons were not pulled because of lack of transportation facilities.—L.

MARYLAND WEEK EXHIBITION POSTPONED

Because of the impossibility of securing the Fifth Regiment Armory and other war causes, the Maryland Week exhibit will not be held this year. It has been decided to postpone this event for one year, and hold local community exhibits in various parts of the state. The annual meetings of the Maryland Agricultural Society and affiliated associations will be held at Baltimore, Md., December 18 to 21.

NEW JERSEY CORN SHOW

New Jersey will hold its first annual Corn Show at Trenton, as part of the annual Agricultural Week, January 23 to 25. Cash premiums and ribbons have been provided for individual entries which may be entered as a part of a county exhibit. For full particulars and directions for arrangement and shipping of entries, address Prof. Frank App, Experiment Station, New Brunswick, N. J.

NEW JERSEY INSTITUTE DATES FOR NOVEMBER

Nov. 14-15	Hamilton Sq.,	Mercer Co.
Nov. 17	Stewartsville,	Warren Co.
Nov. 19	Wyckoff,	Bergen Co.
Nov. 21-22	Swedesboro,	Glou. Co.
Nov. 21	Montague,	Sussex Co.
Nov. 22	Branchville,	Sussex Co.
Nov. 22	Medford,	Burlington Co.
Nov. 23	Farmingdale,	Mon. Co.
Nov. 23	Layton,	Sussex Co.
Nov. 24	Allentown,	Mon. Co.
Nov. 24	Washington,	Warren Co.
Nov. 24	Cape May,	Cape May Co. County Board
Nov. 27	Laurelton,	Ocean Co.
Nov. 27	So. Branch,	Somerset Co.

ANTI-SALOON LEAGUE MEETING

The Anti-Saloon League of America will meet in national convention at Washington, D. C., December 10-13. Nation-wide prohibition will be the primary aim, but this will be discussed from the standpoint of food conservation particularly. Matters of interest to farmers will have a prominent place in the discussions. John A. McSparran, master of the Pennsylvania State Grange, will be one of the speakers. Individual granges and all farmers' organizations are invited to send delegates.

NEW JERSEY SHORT COURSES

A course in home economics will be one of the features of the Short Courses this winter at the New Jersey Agricultural College at New Brunswick. Attention will be given to canning, drying, use of meat substitutes and other methods which are being followed in the effort to meet the shortage of food confronting the world.

The Short Courses open on November 19. Other courses are offered in general agriculture and dairy farming, fruit growing and market gardening, poultry husbandry, and bee husbandry. The staff of the New Jersey Agricultural Experiment Station will constitute the main part of the teaching force, and the buildings and equipment on the College Farm will be available for the use of students in these courses.

English farmers are being guaranteed minimum prices for their farm products thru 1923 by the English Government, in order to promote greater production. The 1917 prices are as follows: Wheat, $1.81 per bushel; oats, $1.16 per bushel; potatoes, 78 cents per bushel.

FARM MEETING CALENDAR

National Grange Meeting, St. Louis, Mo., November 14-23.

Association of Agricultural Colleges and Stations, Washington, D. C., Nov. 14-16.

Short Courses in Agriculture at Rutgers College, New Brunswick, N. J., open Nov. 20.

International Live Stock Exposition, Chicago, Ill., December 1-8.

New Jersey Horticultural Society, Newark, N. J., December 10-12.

Pennsylvania State Grange, Williamsport, Pa., December 11-13.

Palace Poultry Show, New York City, December 11-15.

New York State Dairymen's Association, Syracuse, N. Y., December 11-14.

Maryland State Grange, Belair, Md., December 11-13.

Maryland Agricultural Societies, Baltimore, Md., December 18-21.

Madison Square Poultry Show, New York City, December 28-January 2.

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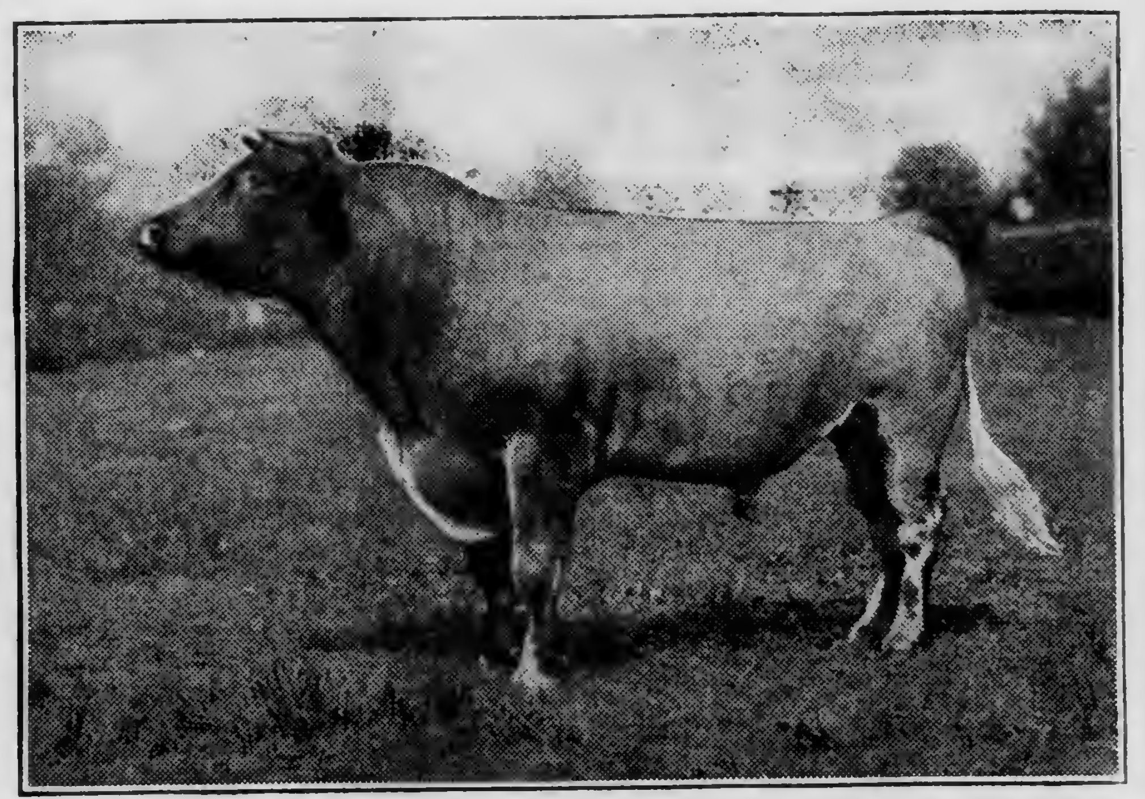

Glenside Cyrus, Grand Champion Milking Shorthorn Bull at Ohio State and Trenton Fairs, 1917

The greatest food idea today is conservation and as I looked over the Dairy Show it seemed to me the greatest single lesson might also be the saving and developing of those animals, not necessarily with the longest pedigrees, but with the greatest capacity for production. To be able intelligently and accurately to pick these animals, we must know what our animals produce; in other words, keep daily records. A number of object lessons on the value of this were shown. In these days of $50 grain and impossibility to get hired men, there are plenty of dairymen who would have done the best day's work of the winter had they attended the dairy show and taken home the idea of weighing each cow's milk. You don't need to wait for a cow testing association. The need for food is so great that it is almost criminal to carry a boarder cow this year.

The Jerseys

"Best rings of aged bulls and cows ever seen at any National Dairy Show or at any other show," was the general ringside comment. Possessing that quality and refinement which is the heritage of the Jersey to the superlative degree, these two classes, and all others that entered the arena, held the admiring attention of hundreds of spectators and many breeders. Numerically, the Jerseys outdistanced all other breeds represented. A sensation was created when Gamboge's Vellum Majesty, owned by M. D. Munn, of Minnesota, was placed above Noble Sultan Golden Fern, of the Galbraith herd, from Tennessee—the bull that had never before been defeated. And later when the grand champion honor was placed it fell to Gamboge's Vellum Majesty.

Twenty-five cows were out in the aged class; beauties such as can not be duplicated at any other show in the world. It was not with great difficulty that Prof. H. H. Kildee, of the University of Minnesota, selected the first place matron, Oxford Majesty's Gypsy, owned by L. V. Walkey, of Connecticut. She is a dairy cow thru and thru and was not to be denied. Later she was given the place of highest award, as the grand champion cow of her breed.

There was lots of quality among the entries of the younger Jersey classes, and many animals that would prove worthy of first place at any show except the National had to be put in second or third or even fourth place because some other animal was just a bit superior. How close the competition was may be partially conveyed by stating that the judging lasted from Monday afternoon until Wednesday evening. Great Scot's Brightness, a yearling in the Ed. C. Lasater herd, of Texas, was made junior champion cow.

The Guernseys

Not quite so dressy in appearance and with less ostentation than the Jerseys, the cream of American Guernseys appeared in the ring on Tuesday and Wednesday. A trifle larger than their Channel Island sisters, they were more content to let the business end demonstrate their worth. Yet breeders must talk of the creaminess of this one's ears and the yellow cast of that one's udder. With C. L. Hill, Robert Scoville and W. A McKerrow acting as judges, Ladysmith's Cherub was eventually selected from among a dozen entries for first place in the aged bull class.

That veteran exhibitor of National Dairy Show winners, W. W. Marsh, of Iowa, again brought the grand champion cow in Imp. Princess Bergere, turning the same trick with her this year that he did last. She is a great cow, milkiness showing all over her. If we could, we would say something about some of the younger contestants that came into the ring. But we can't in a statement of this brevity. Hopeful of Edgemoor, owned by W. H. Dupee, of California, was made junior champion bull; Imp. Rose De Houard's of the Prairie was junior champion cow.

The Holsteins

Genial big W. S. Moscrip tied the ribbons for the Holsteins. He had the pleasure of playing to bigger audiences than any other ringside authority. Ten excellent aged bulls came into the ring, and in time Oak ie DeKol Homestead, of the Iowana Farms, Iowa, was led to the head of the class. Winner at the National Dairy Show last year, he still carries his great size in matchless style. Several mighty fine and trim fellows were out in the other bull classes, animals of excellent Holstein type, straight rumps and top lines without a drop, the kind that are wanted to improve Holstein type.

Holders acted as milkmaids when the aged Holstein cows, 15 of them, came to the scratch. Minerva Beets, of the Haeger herd, of Illinois, was instantly recognized as the favorite. No Holstein ever had a more perfect topline than has this cow—straight and smooth from shoulder tips to pin bones. She is a dairy cow from end to end, with capacity for feed and the ability to transmute that feed into milk. She took the great honor again, giving her four National Grand Championships.

Numerous quality youngsters of great merit filled the younger bull and cow classes. Few, if any of them, were unworthy of the company and the show in which they were exhibited. It was a case of turn down numerous good ones to take the one that was slightly better, or which at least the judge thought better. Matador Segis Walker 6th, of Carnation Stock Farms, Washington, was made junior champion bull and Calamo Nancy Spafford of the Haeger herd was junior champion cow.

The Ayrshires

If enthusiasm for their breed will count, Ayrshire breeders are the fellows who have the big future in the dairy world. When the first aged Ayrshire bull entered the sawdust ring a great round of applause went up from a score or more of breeders. Instantly the attention of the crowd was drawn in their direction. Small numerically, compared to some of the other breeds, there was a quality and beauty and smoothness of dairy type in those five aged bulls that marked them as leaders. Will Forbes, as judge, had no little task in picking Howie's Mint Master, of Wendover Farm, New Jersey, for first place. Yet he could not maintain his winning pace thruout the show. When he was matched against Cavalier's Lord Stuart, of the Adam Sietz herd, of Wisconsin, he lost, the Seitz bull taking the grand championship. Shewalton Main's Queen, of Strathglass Farm, New York, was made senior champion and grand champion cow. Cavalier's Kleinford Dorothy, owned by Seitz, of Wisconsin, was junior champion cow.

Brown Swiss

Only two Brown Swiss breeders were on the grounds, Hull Bros., of Ohio, and L. S. Marshall & Son, of Michigan. Honors were about equally divided between the two. Marshall got grand champion bull and grand champion cow.

Mass Meeting of the Dairy Industry

President M. A. Munn, of the American Jersey Cattle Club, presided at a mass meeting held Monday morning. He quoted a declaration that the American nation would be obliterated in three years if the dairy industry were to be suddenly ended. He then introduced G. Harold Powell, manager of the California Fruit Growers'. Association, who is now working with the food administrator at Washington. He represented Mr. Hoover, who was not able to come.

Mr. Powell discussed some of the general features of the food situation, declaring that a shortage existed in nearly all of the fundamental necessities. The area of production for the Teutonic powers is constantly contracting while the allied production of wheat is 525 million bushels below normal. This deficiency must be largely met by America. This can be done fairly well if the United States can increase exports by 200 million bushels and Canada by 125 million bushels. The supply of cattle, sheep and hogs has also been greatly reduced, and not only during the war, but for years thereafter, the United States and other countries outside of Europe will be called upon to help restore the stocks of all kinds of domestic animals. The increase in exports of foodstuffs since the war began has been enormous. For instance, for the three years immediately preceding the war the average exports of cheese were 4½ million pounds; last year they were 66 million. In the same three years the average exports of butter were almost 5 million pounds; last year they were 26 million. He declared that there must be greater economy in the handling of farm products from the farm to the consumer. In fruits and vegetables, eggs and poultry, the losses run into the millions annually. The food administration is particularly interested in the prevention of waste. He declared that under the present abnormal conditions it would be possible to do more in two years to perfect organizations of producers and to install economical methods than could possibly be done in 25 years of normal times. He said that the organization of which he is manager moves crops from farm to consumer for an average cost of two percent of the ultimate cost, whereas the general average for farm produce runs from five to twenty percent. The organization has also co-operated in buying with a resultant saving of hundreds of thousands of dollars each year. He advocated heartily the national advertising campaign that has been undertaken by the National Dairy Council and declared that one of the most valuable results of co-operation is the awakening of the members to a degree of public and business conscientiousness that could not be aroused by any other force. He made extensive comments on the new food law and declared that the act was largely based on the desire to encourage the producer and to prevent the mishandling of products after they are in secondary hands. For the most efficient enforcement of the act the public must give voluntary support to it in every possible way.

Students' Judging Contest

Missouri's college of agriculture team won first in the students' judging contest. Iowa State College was second and Nebraska College of Agriculture was third. The students from 16 different universities and colleges

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KRAUSE Dairy Feed has made a top notch record as a milk producer. It is recognized by expert dairymen everywhere as a feed of the highest grade, on which they can always depend for increased milk production and healthy cows. It is a money-maker because it takes the place of high priced, home grown grains—saves time and labor of mixing—provides a better ration than any other combination and one which produces big and certain results.

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Krause Dairy Feed is made under a formula which has been approved by experts of two leading agricultural colleges. It contains distillers' grains, gluten feed, cotton seed meal, wheat bran, malt sprouts, wheat middlings, brewers' grains, hominy feed, linseed meal and a fraction of 1% of salt.

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Each of the ingredients in Krause Dairy Feed has distinct and specific value. They are combined in such proportions as to produce a scientifically balanced ration which possesses maximum food and milk-making value—will keep your cows in perfect condition and produce a big milk yield without forcing. Your herd will relish Krause Dairy Feed and respond to it immediately.

Feed "Krause" this Winter

Sell your high priced grains and make Krause Dairy Feed your standby for fall and winter feeding. Fed alone or with any home grown stuff that does not bring a high market price, it is always a money maker. Compare the cost and results with any lower grade mixture and you will find you are saving money and making money.

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Write at once for free sample of Krause Dairy Feed, also useful pocket size record book. Be sure to give name of your dealer.

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common kerosene (coal oil), no odor, smoke or noise, simple, no pumping up, no pressure, won't explode. Tests by U. S. Government and thirty-five leading universities show the Aladdin gives three times as much light as best round wick flame lamps. Won Gold Medal at Panama Exposition. Over three million people already enjoying this powerful, white, steady light, nearest to sunlight. Guaranteed. And think of it—you can get it without paying out a cent. All charges prepaid. Ask for our 10-day Free Trial Offer and learn how to get one free. **AGENTS WANTED**

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were required to rank each class of cattle and also to write their reasons for such placings.

The three highest teams in each breed—Ayrshire: University of Missouri; Delaware College; Iowa State College. Guernsey: Pennsylvania State College; Iowa State College; South Dakota College. Holstein: University of Nebraska; University of Missouri; Iowa State College. Jersey: University of Missouri; Kentucky State University; Maryland Agricultural College.

The students in the contest were required to judge eight classes of cattle consisting of four bulls and four cows each.

Dairy Marketing Conference

Is there any more absorbing topic for dairymen these days than marketing? Wherever there are two or three dairymen gathered, the chances are that they are talking some phase of the subject. Even at the great National Dairy Show, many dairymen were found talking prices.

The conference was started off with a short address of welcome by H. E. Van Norman, president of the National Dairy Show. In a response to his talk, Milo D. Campbell, president of the National Milk Producers' Federation, emphasized that the greatest object in the meeting should be to outline economies rather than to meet with the idea of boosting prices. Organization among farmers has come to stay, he said, but we do not want to create class feeling and promote discontent because of giving too much emphasis to farmers' needs without attention to the needs of the consumers.

Discussing the economic factors that affect butter production, Geo. E. Haskell, of the Beatrice Creamery Co., said that one of the main reasons why the producer is not getting more for his butterfat is that much of it is delivered to the creamery in poor condition. Lack of cooling cream and milk on the farm and carelessness in cleaning utensils are the two main reasons for this. He also favored the centralizer type of creamery over the small concern under local management because the large concern can build up a volume of business that warrants the hiring of experts to make and market the product. Local pride is the thing that stands in the way of this.

Geo Cayer, general inspector of the department of agriculture, Montreal, Can., told of the co-operative work of the cheese makers of Quebec. Their success has been based upon grading products and then selling them according to quality. They maintain three grades of cheese. When they first started operation in 1910 they had 30 cheese factories and only 10 percent of the cheese would grade No. 1. In 1916 there were 500 factories selling co-operatively thru the association, and 90 percent of the cheese was of good quality. The total business this year will amount to five millions of dollars at the present rate. In closing his address Mr. Cayer emphasized again that grading and selling on a quality basis were the two things that had brought success.

Henry Krumley, of Wisconsin, talked of the activities of cheese producers in Sheboygan County. In 1912 some of the dairymen got tired of seeing the price of cheese cut to 10 or 12 cents by cheese brokers and sending it up 100 percent or more during the winter season when very little cheese was coming onto the market. So they established the Sheboygan County Cheese Producers' Association. The first nine months of this year they handled 7½ million pounds of cheese, at an average expense of one-fourth of a cent per pound for marketing and storing. They have eliminated 80 percent of the difference between summer and winter cheese prices.

"Any plan to promote saving, lowering prices and increasing quality to consumers is all right," said C. E. Bassett, of the U. S. Bureau of Markets, in a talk on the organization of dairy co-operating marketing associations, judged under the rights of the Clayton Act. "But to organize just to boost prices is wrong." In other words, Mr. Bassett believes that the object of co-operative marketing can not legitimately be price fixing, but that its legitimate object is to effect savings in methods of marketing.

Market news service is a new line of work that is being taken up by the bureau of markets for the purpose of informing dairymen about the general market conditions, giving the producer the same information that enables the large operator in dairy products to handle his stocks.

Interstate Association Notes

New Milk Schedules---Annual Meeting

Following is the statement of the Interstate Milk Producers' Association announcing the new schedule of milk prices that went into effect on November 5:

"The Executive Committee of the Inter-State Milk Producers' Association appreciates that the public has a right at all times to know all about the milk situation in Philadelphia and this knowledge is particularly important now, when the price of every commodity has increased to the consternation of the consumer.

"Our Association has been endeavoring to co-operate with the Federal Food Administration, the Tri-State Milk Commission and other agencies in a united effort to keep down as far as possible the price of one of the food necessities. But now we are facing a serious situation. We have been promised lower feed prices. Those reductions have not materialized. Our members know they cannot afford to continue in the business at the present prices and they will gladly furnish facts to show this. As evidence, we would call attention to the very serious shortage in the Philadelphia supply at the present time, which indicates only one thing, that farmers are not buying the necessary feed to keep up the supply, but rather, are depending on the farm supply of corn and roughage—both corn and hay are double 1916 prices.

"Furthermore, recent war orders for condensed milk are at a figure that will insure an increased price to the producers, and prices paid in other markets are much advanced. We can, therefore, do nothing less than arrange for an increase for our members, and have fixed a price schedule that will average about ¾ of a cent a quart above that received since July 1.

Price Schedule

The following schedule of prices has been adopted by the Inter-State Milk Producers' Asociation for direct shipped milk f.o.b. Philadelphia, after November 5.

Test percent	Price per 100 lbs.	Price per quart
3	3.17	6.9
3.1	3.21	7
3.2	3.25	7.05
3.3	3.29	7.1
3.4	3.33	7.2
3.5	3.37	7.3
3.6	3.41	7.4
3.7	3.45	7.5
3.8	3.49	7.6
3.9	3.53	7.7
4	3.57	7.8
4.1	3.61	7.85
4.2	3.65	7.9
4.3	3.69	8
4.4	3.73	8.1
4.5	3.77	8.2
4.6	3.81	8.3
4.7	3.85	8.4
4.8	3.89	8.5
4.9	3.93	8.55
5	3.97	8.6
5.1	4.01	8.7

When not tested the price is to be 7¾ cents per quart.

Receiving Station Prices

Following is the new schedule of prices at receiving stations for 3, 3.3 and 4 percent milk. The price for all other tests is at the rate of 4 cents for every one-tenth point above and below these tests.

Miles	3%	3.3%	4%
1- 10	2.76	2.88	3.16
11- 20	2.75	2.87	3.15
21- 30	2.74	2.86	3.14
31- 40	2.73	2.85	3.13
41- 50	2.72	2.84	3.12
51- 60	2.71	2.83	3.11
61- 70	2.70	2.82	3.10
71- 80	2.69	2.81	3.09
81- 90	2.68	2.80	3.08
91-100	2.67	2.79	3.07
101-110	2.66	2.78	3.06
111-120	2.66	2.78	3.06
121-130	2.65	2.77	305
131-140	2.64	2.76	3.04
141-150	2.63	2.75	3.03
151-160	2.63	2.75	3.03
161-170	2.62	2.74	3.02
171-180	2.61	2.73	3.01
181-190	2.90	2.72	3.00
191-200	2.60	2.72	3.00
201-210	2.59	2.71	2.99
211-220	2.58	2.70	2.98
221-230	2.58	2.70	2.98
231-240	2.57	2.69	2.97
241-250	2.57	2.69	2.97
251-260	2.56	2.68	2.96
261-270	2.56	2.68	2.96
271-280	2.55	2.67	2.95
281-290	2.54	2.66	2.94
291-300	2.54	2.66	2.94

These prices are calculated in accordance with the freight rates recently authorized by the Inter-State Commerce Commission. These rates do not apply on the Reading system before November 15th and therefore freight allowances must be made from the above prices at all points on that railroad for all milk sold previous to that date.

Annual Meeting

The annual meeting of the stockholders of the Interstate Milk Producers' Association will be held at the Bourse Building, Philadelphia, December 3, 1917, at 10 A. M. Association business will include the election of a Board of Directors, receiving and acting on the reports of officers and transaction of other business coming properly before the meeting. Full information on voting may be secured by addressing the Secretary, Robert W. Balderston, at the Association headquarters, 721 Heed Building, Philadelphia, Pa. A mass meeting, at which all dairymen and the general public are invited, is planned for the afternoon, starting at 2 P. M. Full announcement of the mass meeting program will be given in these columns in a later issue.

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Raise Your Calves on
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More calves have been raised on Blatchford's Calf Meal than on all other milk substitutes combined.
100 lbs. makes 100 gallons of milk substitute, costing only one-third as much as milk.
Prevents scouring and insures the early maturity of sleek, handsome calves.
It is steam-cooked and no trouble to prepare or use.
Write for Pamphlet "How to Raise Calves Cheaply and Successfully with Little or No Milk." At dealers, or Blatchford Calf Meal Company, Dept.98, Waukegan, Ill.

DISPERSAL SALE
For Francis S. McIlhenny, Esq., at His Farm, 20 M. North of Phila., at Gwynedd Valley (P. & R. R.), Montg. Co., Pa.,
Wednesday, Nov. 21, 1917, 11.30 a.m.
Reg. Holstein Bull, 2 years, very fine.
10 Reg. Holstein Cows and Heifers
3 Holstein Cows and Heifers, not Reg.
3 Farm Horses.
250 R. I. Red Chickens and Pullets, Whitmer Strain; 25 Geese; 32 Ducks; 12 Guineas; 2 Hives Bees.
1000 bu. Corn; 4000 bdl. Fodder; 10 Tons Mangoes; 4 Tons Oats and Peas; 75 bu. Potatoes.
5 H-P. G. E. Motor; 2 Hay Wagons and all other equipment of this 83-acre farm. Farm is sold. Sale of equipment absolutely. Lunch at 11. Complete circular with breeding of cattle on request.
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Our products are the best of their kind.
Hennesy's Scientific Formula Fertilizers are dependable at all times.
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Patent Chain Hanging
Stanchions
make the cows comfortable, keep them clean, and increase the flow of milk. Send for booklet to
Wallace B. Crumb,
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It Pays to Dehorn
Dehorned cows give more milk; take less room; are gentle and easily handled. Steers fatten quicker and are harmless—they pay better. The new Improved Keystone Dehorner removes horns quickly, cleanly and safely. Shear has sliding cut; no bruising. Easy to dehorn. Money-back guarantee. Send for booklet.
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Free Baits For Trappers
$1.00 Bottle Write today before our supply is exhausted and we will tell you how to get free the Guaranteed Decoy.
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Sabo Sure Catch Trap. Designed to be placed in the animal's burrow. Your hardware dealer has them. Write for booklet. Agents Wanted
SABO TRAP MFG. CO
3128 W. 25 St., Cleveland, Ohio

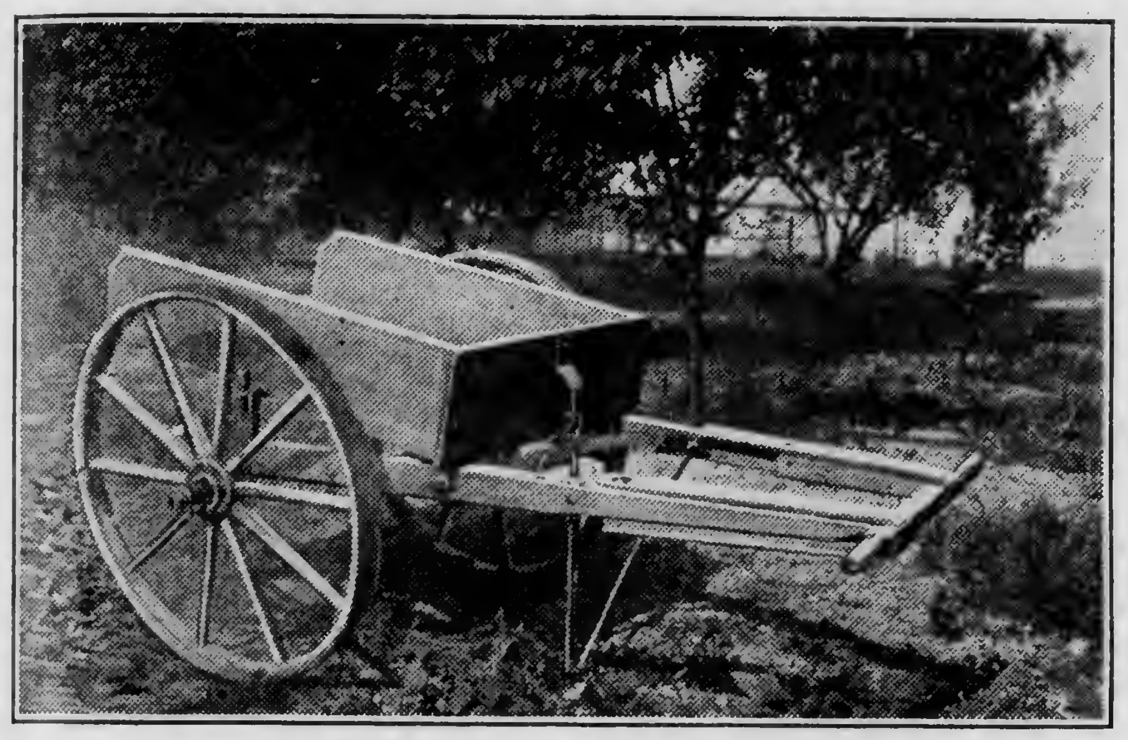
Horticulture

MANURING THE GARDEN

Fresh stable manure, applied in the spring at planting time, fails to have the effect that the gardener expects. It must go thru the process of nitrification before plants can use it. That is, the organic nitrogen it contains must be acted upon by the various bacteria which carry on the process and produce nitrates. Nitrogen must always be in the form of nitrate before roots of plants will take it up. This process takes some time, and in the meantime the crops are needing the nitrogen. The organic matter must be broken down, thru the action of one species of microbe. Ammonia is released and this is the food of another bacterium, and the result of its work is the formation of a nitrate, which another bacterium transforms into nitric acid. This at once seeks a base in the soil and a nitrate is formed and taken up by plants or washed away from the soil, since the nitrates are very soluble. Where there is no green winter growth on the soil the nitrates that have been formed are washed away from the bare soil in winter. But if there are plants green and hardy on the land in winter they will use the nitrates and once more the nitrogen goes back to the form of organic nitrogen which must again be transformed into nitrates.

All of which goes to show that in applying stable manure to our gardens we must either rot it before hand, or give it time to decay in the soil and be ready in spring to rapidly evolve nitrates and help the growth of the early vegetables. But rotting manure in heaps causes too rapid an oxidation and there is much loss from volatile ammonia escaping into the air. But it is desirable for garden truck that the manure be well rotted so that it can be more rapidly made available to the crops. I concluded that all that was needed is to give the manure time to rot slowly, and prevent its heating and the consequent formation of the volatile form of ammonia. Following this idea I have for years covered my entire garden very thickly with stable manure the early part of November. The garden is well occupied by winter crops, late beets, carrots, parsnips, salsify, cabbages, spinach, kale, leeks and onions, all of which we here leave in the rows where they grew, and the manure makes a heavy mulch, and decays slowly until spring, when most of the winter crops have been used, and as fast as the soil is cleared, the early spring and summer crops go in. The manure is then in the best condition for use and soon shows its effect on the vegetable crops. Manure furnishes mainly nitrogen and humus-making material, and needs to be balanced by the addition of phosphoric acid and potash. These are applied in the form of commercial chemical fertilizer in spring. I have found this method to work admirably. My soil is light and sandy, and needs potash, and this is about the only material we cannot get now at any reasonable price. Those who live near tobacco manufacturing towns can get stems at reasonable price, and these contain 8 percent of potash.

During the growth of garden crops in summer I find that it pays well to use some nitrate of soda, especially on leaf crops like lettuce and cabbages, spinach and kale. This, too, is now very costly, but in a small garden there is not a very heavy tax for the amount needed, and I never use it at a heavier rate than 100 to 150 pounds to an acre.—W. F. Massey.


A Useful and Efficient Hand Cart

A USEFUL HAND-CART

A very handy device about the farm is a small cart, such as is shown in the accompanying illustration. This one is made with an old barrel-cart frame as a foundation, and not only serves to haul small loads about, but by releasing the catch in front, it will serve as a dump cart for small quantities of rubbish.

A similar cart, a little larger and mounted on springs, will be found very useful in the garden and orchard for hauling in loads that are too much to carry at one time, but not worth getting a horse. Its a time and labor saver. Try it and see.—S-H.

STORING VEGETABLES

After canning, drying and otherwise preserving garden truck there still remains the problem of storing the last of the vegetables in such a way that it will be an addition to the bill of fare during the winter and spring. Altho it may not seem desirous now it will prove a welcome and wholesome change later on as well as a source of profit, saving as it will the purchase of other foodstuff.

Beets, turnips, carrots and winter radishes keep well when buried out of doors until spring, but to save the labor of opening the pit until really necessary, it is a good plan to bury some in dirt or sand in boxes placed in the cellar; a layer of soil, then one of vegetables from which the tops

Fifty Million Dollars a Day Not Enough!
Do you realize what the corn crop means to this nation? Can you grasp the full significance of over three billion bushels of corn? At the present price of almost $2.00 per bushel it represents over six billion dollars or more than three times the first Liberty Loan. This represents Fifty Million Dollars a day during the corn growing season averaging 120 days.
War conditions have more than doubled the value of corn. The world's shortage of wheat and the scarcity of other grains gives the corn crop a value and importance which is greater today than ever before.
Corn has long been the foundation crop of American agriculture. In 1621 it brought life and thanksgiving to the Pilgrims at Plymouth and today it is of vital importance to the American people and their allies.
The 1917 corn crop, valued at over six million dollars, was not large enough to meet the demands. Upon the American farmer is laid the burden of feeding practically all of the civilized world. There is no possibility of producing wheat enough and we must turn to our golden corn to tide us over this emergency. Every farmer should plan for "*a greater yield from every field.*"
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have been trimmed, and so on until boxes are filled. A very light sprinkling of water may be necessary to keep the vegetables fresh, but avoid too much moisture.

Celery should be lifted carefully to allow soil to remain on the roots and planted in a box of soil in the cellar crowding it closely into the box and pressing the soil well about the roots. It will keep a long time, even growing new stalks if kept only slightly moist. It will damp off and rot if kept wet.

Endive and parsley may be kept for a long time planted in the cellar where there is some light. The parsley tops may also be kept by drying them thoroly and storing in a paper sack in a dry place, as for sage.

Scarcity of fruit will make the rhubarb welcome for either sauce or pies and it may be winter grown in the cellar. When time for freezing weather comes, dig the roots and let them freeze up solid, then plant in soil in the cellar where there is some light and keep them a little moist. It will produce tender stalks for use.

Cabbage will keep a long time if pulled and placed, head down, in a heap in the cellar. If more is had than is needed for cooking, the surplus will be welcomed by the hens. It is best to bury out of doors the cabbage to be used toward spring.

Mangel wurzles for poultry or stock feeding keep splendidly simply placed in a heap in the cellar, where they are convenient at all times.

Pumpkins and squashes keep best in a cool, dry room, where they will not freeze. They will keep well in a dry, well-ventilated cellar. Sweet potatoes must be kept in a dry, cool place, all the better if wrapped separately in pieces of newspapers.

Horse radish roots may be buried in the cellar, or they may be ground, seasoned, covered with vinegar, sealed and placed in the fruit cupboard.—Mrs. Cora B. Williams, Seneca Co., Ohio.

AN EXCELLENT TYPE OF PICKING BASKET

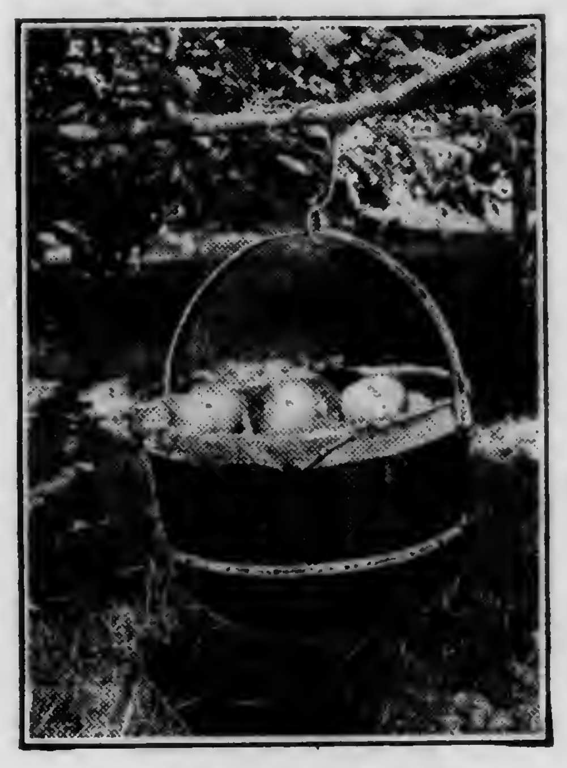
Good fruit demands careful picking, and at this stage of the game, much harm can be done by the use of an improper picking receptacle. Whether peaches or apples, the fruit should be picked into receptacles which are light, strong, rigid, easily handled, and of medium size, as well as without sharp edges or angles that come in contact with the fruit. This is especially true of fancy stuff which is to go into crates or boxes. The common peach basket, for instance, is in most cases a poor picking basket, because it can easily be forced out of shape, bruising the fruit, which is also liable to be cut against the edges of the slats, while the basket is hard to handle in the orchard. In the same way, the various bag devices for picking apples offer little protection to the fruit.

The accompanying illustration shows the oak-stave picking basket, one of the most satisfactory picking receptacles to be had, as it causes little or no injury to the fruit it contains. The swing bail makes it easy to handle, while the wire hook makes it easy to hang the basket to a limb, so that there is no temptation to drop the fruit into the basket, and both hands are left free to pick. The burlap lining is an added protection to the fruit. These baskets can be purchased for about a quarter, unlined, and without the hook. They will last a number of years with ordinary care, and much longer if painted or varnished.—R. L. Scharring-Hausen.

THE MEMORY GARDEN

Flowers may easily have for us a two-fold significance, a double value; and no more beautiful souvenir of friendship can be given than a rare plant. These, if carefully treasured, will soon form a rare friendship collection, rendered more and more valuable as the years slip past.

In our own assemblage there is an English ivy, a present from a friend in a distant city, and her own slip came from a plant taken from the grave of Irving at Sunnyside. Thus there is the friendship gem in a historical setting, and the dainty green recalls not only the generosity of the giver but there goes with it a bit of Hudson River charm.



Oak Stave Picking Basket.

Again, there is an agave, a plant which has been in the family for more than a third of a century; and tho both giver and receiver are in the land where flowers always bloom, friendship's bond, passed down to another generation, still remains firm.

A humming-bird cactus, in full bloom as I write, recalls the sojourn of a friend of the family in Florida in search of health which failed to come. On his return, he brought a slip of this cactus, then entirely new in the vicinity. And from it has come the plant we now treasure—a memory of one who has been for many years under the sod.

There is the rose bush which grandmother planted, the lily which she treasured. Every old homestead has these in some form. Among the most valued things at the old Jumel Mansion, now a part of the property of the city of New York, are the old lilac bushes which date back to the times of Washington. And in our own collections we may each gain treasures of a personal value much greater than their purely floral worth.—Bessie L. Putnam.

Timely Fruit Notes

By Dr. J. P. STEWART

Fertilizing Peaches

"I understand that you have one peach orchard where you are fertilizing entirely with manure. Will you kindly advise me what results you are getting and if you advise it where the ground is poor and also where ground is medium?" S. B. C.,

We have a peach experiment in which we have used various combinations, one of which consists of annual applications of manure at the rate of 110 pounds per tree. There has been no injury from this application, but the returns in fruit have not been as good as from applications of nitrogen and acid phosphate.

In this experiment, the nitrogen has been applied at the rate of 1 pound each of nitrate of soda and dried blood and 5 pounds of acid phosphate, the applications being made annually and usually sometime between the starting of growth in the spring and the time that the fruit is set.

The addition of potash, at the rate of 1 pound to the tree, has increased the yield somewhat in this experiment but by no means enough to justify the addition of potash at present market prices.

Our present recommendation, wherever there is a probability of needing additional fertility in the soil, is to apply 1 pound of nitrate of soda and about 3 pounds of acid phosphate, or their equivalents, to a tree, after the second or third year. This application may of course be supplemented by manure if it is available, and the manure is probably better on younger trees. The commercial materials named above are much quicker acting, however, and in any case, the application should not be made so late in the season as to endanger winter injury, by encouraging too late a growth.

MARYLAND GARDEN NOTES

October 13th gave us our first frost and a very light one. No serious damage noted. The sweet potato and bean leaves had their edges scorched. Now, two days later, we are having the most glorious weather. The outside lettuce is extra fine and the later sown plants are now going into the frames. No glass will be used until there is real killing frost. These plants are wanted to head for Christmas and New Year's. Then the portable frames we use will be moved to fresh soil and some of them planted with lettuce started in a frame for heading in March. Other frames will not be moved but will be planted to beets and radishes in alternate rows six inches apart. These have the double glazed sashes. The radishes soon come out, and the beets have 12-inch rows. By the middle of March these can be hardened off and the frame moved to other soil and used for spotting out the tomato and pepper plants from the greenhouse.

I find that in a family garden it is is a great advantage to use these three sash portable frames. One can easily make a rotation of crops merely by moving the frame, and it is also easy to harden off such crops as beets and cauliflower, and have the frame and sashes for the transplanting of the spring plants. I plant one frame in November with six cauliflower plants to each sash; then fill in with close heading lettuce like Tennis Ball or Hittinger's Belmont. The lettuce will be out by New Year's and the cauliflower plants will be allowed to grow slowly, so that by March they will be getting up near the glass and they, too, will be gradually hardened and the frame moved from them later in the month, and we get the head in April and May. In our comparatively mild winter climate here between the ocean and the bay we can do a great deal in winter with cold frames. I do not use hot beds, partly because I cannot depend on getting manure for them, but mainly because the little greenhouse is far more convenient and easy to handle. Tending a hot bed in bad weather is too much for near four score.—W. F. Massey.

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We Warrant the Maynard to develop more than its rated horse power, to do it continuously and without injury. We sell it at a price lower than dealers ask for their lowest priced gasoline engines. We ship it to you with the distinct understanding and agreement that you may use it 60 days, giving it every test you care to give it, and if it is not entirely satisfactory to you, ship it back to us at our expense and we will return the purchase price and any freight charges paid by you. You cannot ask for a more liberal offer than this. We are ready to ship promptly from our big stocks in New York.

The Maynard 3-Horse Power Engine

Type "K" Gasoline-Kerosene Four-Cycle Horizontal. Bore, 4⅛ in. Stroke, 6 in. Normal speed, 450 R.P.M. Maximum speed, 550 R.P.M. Diam. flywheel, 21 in. Weight each flywheel, 81 lbs. Diam. crank shaft, 1 9/16 in. Capacity water hopper, 3½ gals. Capacity fuel tank, 3½ gals. Length of piston, 5½ in. Diam. of pulley, 10 in. Face of pulley, 6 in. Shipping weight, 480 pounds. Webster Magneto Ignition.

The 3-H.P. Gasoline-Kerosene Maynard will operate a centrifugal pump, saw wood, operate a corn sheller, feed grinder, cream separator, churn, etc. Equipped with the famous Webster Oscillating Magneto.

740A96 Price, as described............ $62.00
740A842 Hand Truck with four 12-inch iron wheels for mounting this engine. Weight, 140 pounds. Price, each............ $7.25

The Maynard 5-Horse Power Engine

Type "K" Gasoline-Kerosene Four-Cycle. Bore, 4¾ in. Stroke, 8 in. Normal speed, 400 R.P.M. Maximum speed, 500 R.P.M. Diam. flywheel, 26 in. Weight each flywheel, 142 lbs. Diam. crank shaft, 1¾ in. Capacity water hopper, 6 gals. Capacity fuel tank, 6 gals. Length of piston, 6 in. Diam. of pulley, 12 in. Face of pulley, 6 in. Shpg. wt., 725 lbs. Webster Magneto Ignition.

The 5-H.P. Gasoline-Kerosene Maynard is the most practical size. It delivers all its power at the belt pulley, smoothly and steadily. Mounted on a truck, the 5-H.P. Maynard makes the ideal all around engine for all the ordinary work on the farm.

740A97 Price, as described.......... $87.00

We can supply horse trucks, portable sawing outfits, pumping outfits and other equipment to go with these engines. Ask for a free copy of our Farm Bargain Book.

The Maynard 7-Horse Power Engine

Type "K" Gasoline-Kerosene Four-Cycle Horizontal. Bore, 5½ in. Stroke, 10 in. Normal speed, 370 R.P.M. Maximum speed, 450 R.P.M. Diam. flywheel, 36 in. Weight, each flywheel, 230 lbs. Diam. crank shaft, 2 in. Capacity water hopper, 12 gals. Capacity fuel tank, 8½ gals. Length of piston, 7 in. Diam. of pulley, 14 in. Face of pulley, 8 in. Shpg. wt., 1265 lbs. Webster Magneto Ignition.

The 7-H.P. Gasoline-Kerosene Maynard is a heavy duty engine, large enough for all the work on the farm. It will run a 10-inch feed grinder, a 12-inch buhr mill, a 12-inch ensilage cutter with blower elevator or a 16-inch ensilage cutter with conveyor elevator. It will pull a two-roll husker and shredder, a four-hole corn sheller, a power hay press or run a 30-inch buzz saw.

740A98 Price, as described....... $128.00

Maynard 1½-H.P. Gasoline Engine

This is the little brother of the big Maynard illustrated and described above. It is made throughout with the same care and of the same high quality materials. It is also sold under the same broad guarantee and 60-day home trial test. The only difference is that the Maynard Junior **burns gasoline only.** Read these specifications and order today. Shipped promptly from stock in New York City.

$28.90

The Maynard Jr. 1½-Horse Power Gasoline Engine

Type, Gasoline only, Four-Cycle Horizontal. Bore, 3½ in. Stroke, 5 in. Normal speed, 500 R.P.M. Maximum speed, 600 R.P.M. Diam. flywheel, 16 in. Weight each wheel, 34 lbs. Diam. crank shaft, 1¼ in. Capacity water hopper, 1½ gals. Capacity fuel tank, 1 gal. Length of piston, 4 in. Diam. of pulley, 4 in. Face of pulley, 3 in. Shipping weight, 225 pounds.

The 1½-H.P. Maynard is built for the use of gasoline only on account of the very small amount of fuel used to run it. The 1½-H.P. differs from the other sizes also in that the cylinder head is not water jacketed but is air cooled instead. In all other important respects the design is the same. $28.90

740A84 Maynard 1½-H.P. Gasoline Engine, with batteries. Price............ $28.90
740A85 Same Engine, complete with Webster Oscillating Magneto. Price............ $34.75
740A841 Hand truck, four 12-inch wheels, for mounting this engine. Price............ 4.50

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$62.00 Complete Sawing Outfit

740A62 Complete four-wheel steel truck with saw frame and 26-inch saw blade. Truck sill bored and fitted so 5-H.P. Maynard Engine can be mounted by simply inserting six bolts; 24-inch front and 26-in. rear steel wheels; 3-inch tires; 3-inch axles; 4-inch sills; complete with tongue. Shipping weight, 800 lbs. Price...... $62.00

740A64 Same as above, but heavier, with sills bored and fitted for Maynard 7-H.P. Engine; 5-inch sills; 28-inch front and 30-inch rear wheels; fitted with 28-inch saw blade. Shipping weight, 895 pounds. Price, each............ $65.00

Old Reliable Two-Hole Sheller $18.00

Large capacity, well made. Made of hardwood, strongly bolted; nicely painted. Shafts are cold rolled steel of size to stand the most severe strain; run in babbitted boxes. Balance wheel heavy and large diameter. Height to top of feed table, 39 inches; width, 24 in.; length, 4 feet 4 inches; capacity, 35 to 45 bushels per hour. Furnished with a wire cob rake which carries out cobs and prevents clogging. Also carries out the silk and husks. Shipping weight, without elevator, 295 lbs. Shipped from factory in Ohio.

919A1022 With fan, feed table and 12x3-in. pulley, crank and cob carrier. Price............ $18.00
919A1024 Five-Foot Sacking Elevator. Shipping weight, 85 lbs. Price, each........ $9.25
919A1025 Eight-Foot Wagon Box Elevator. Shipping weight, 120 lbs. Price, each.. $14.00

See Free Farm Bargain Book for prices and descriptions of other shellers.

Little Wonder Grinder

Two-horse power needed to run it. Strong and durable. Burrs, 5½ in. in diameter, made from a composition of extra hard metal. Will grind 7 to 20 bushels of grain per hour. Furnished with one set of fine grinding plates and one set coarse. Pulleys are 6½ in. in diameter. Shpg. wt., 90 lbs. Shipped from N. Y.

719A1152 Price, with two sets of grinding plates.................... $10.50
Extra Grinding Plates, pair................ 75c

Other Grinders described and priced in our Free Farm Bargain Book.

Double Action High Pressure Force Pump

For wells up to 30 feet deep, for pumping water to storage tanks; for supplying residences, for irrigation, for spraying orchards, pumping oil, etc. Mounted on a heavy cast iron base. Cold rolled steel shafts 1¼ inches in diameter. Fitted with 1¼-in. suction and 1¼-in. discharge on both sides. Shipping weight, 200 pounds.

726A1380 Geared three to one with tight and loose pulleys, 14 in. in diameter, 2½-in. face, for gasoline engine. Price... $25.90
726A1381 Same as above, fitted with pneumatic attachment. Price.............. $27.65

Countershaft Pump Jack

Designed for use either on beam overhead, on side wall or post, where the position or style of the pump will not admit of the use of a vertical jack. By making a connection between the pitman or the jack and the pump handle, it can also be used on the floor or platform to operate a horizontal pump. Made with heavy steel shafts, babbitted bearings, cut gears and tight and loose pulleys. Stroke adjustable from 4 to 8 inches. Pulleys, 14x2½ inches. Shipping weight, 86 lbs. Shipped from factory in Indiana.

940A814 Overhead Pump Jack. Price $9.85

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WOOD SPLIT PULLEYS
For shafts ¾ to 2 in. Diam., 3 to 24 in. Face, 3 to 6 in. Price, $1.26 to $4.45.

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For shafts ¾ to 1 15/16 in. Diam., 3 to 6 in. Face, 3 to 6 in. Wt., 1¾ to 7 lbs. Price, $1.62 to $2.88.
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71A3228 The best Cold Rolled Steel Shafting; smooth, straight and uniform size the entire length. In following lengths only: 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24 feet.

Size, in.	¾	1	1¼	1½	1¾	2
Wt., ft., lbs.	1½	2¾	4¼	6	8¼	10⅜
Price, foot	12c	21c	33c	47c	64c	84c

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Our most popular size cutter. For ordinary farm use. Frame is heavy hardwood, firmly bolted and braced. Feed table ample size with fixed sides. FEED throat large, permitting fast, easy feeding. Shaft is 1¼-inch cold rolled steel. FEED ROLLS ARE LARGE AND DRIVEN BY EXPANSION GEARING. Pressure controlled by hardwood spring. Change of cut accomplished by sliding cone gears. Four 11-inch tempered tool steel knives which cut with a downward shear. Steel cutting bar has four edges which can be used in turn before regrinding is necessary. Cuts ¼, ⅝ or 1 inch or can be made to cut 1½ or 2 inches by removing one or two opposite knives. Friction safety flywheel. Capacity, 1 to 3 tons per hour. Pulley, 12x4 inches. Shipping weight, 400 pounds. Shipped from New York warehouse.

719A1064 Monarch Power Feed Cutter. Price $32.30
719A1065 Crank for hand use. Price.. $0.95
919A2329 Swivel Elevator, 12 ft. long 25.95
919A2330 Extension for Elevator. Comes only in 4, 8 or 12-foot lengths. Per foot.. $1.05
Elevator and Extension shipped from factory.

Horse Drawn Engine Trucks

740A52 Truck for 3 and 5-Horse Power Maynard Engines, with 24-in. front and 26-in. rear steel wheels with 3-inch tires complete with either shafts or pole. State which is wanted. Weight, about 670 pounds. Price... $35.00
740A54 Truck for 7-Horse Power Maynard Engine, with 28-inch front and 30-inch rear steel wheels with 3-inch tires. Complete with pole. Weight, 700 pounds. Price............ $36.50

EXTRAS
Neckyoke, doubletree and singletrees. Set $3.00
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$17.90 Pole Saw Frame

Strong and durable. Balance wheel is placed on separate shaft near base of machine, no danger of it striking the wood. Table has steel extension on which wood drops after it is sawed. Mandrel, 1 7/16 inches in diameter, 49 in. long; 1⅜-inch arbor, 6x6-inch pulleys. Boxes lined with babbitt metal. Center pulley hung on heavy bracket. Will not get out of alignment. Takes blade up to 30 inches. Requires from 3 to 5-H.P. Shipped from New York or factory in Southern Pennsylvania.

719A1640 Frame without Blade. Shipping weight, 320 pounds. Price $17.90

Cordwood Saw Blades

719A1600 To fit saw frame No. 719A1640.
24-in. Wt., 20 lbs. Size, hole, 1⅜ in. Price $4.05
26-in. Wt., 24 lbs. Size, hole, 1⅜ in. Price 4.65
28-in. Wt., 28 lbs. Size, hole, 1⅜ in. Price 5.25
30-in. Wt., 33 lbs. Size, hole, 1⅜ in. Price 5.90

Trucks for Small Engines $4.50

These trucks can be used for mounting any small gasoline engine. Iron axles with iron bolsters and tongue. Front wheels to turn under. Engine mounted by bolting its own skids direct to the truck bolsters. Iron wheels 8 in. diam. 2-in. face.

740A841 No. 1 Truck for engine of 400 lbs. or less. Wt., 50 lbs. Price, each $4.50
740A842 No. 2 Truck for engines 400 to 1,200 lbs., with 12-inch iron wheels. Weight, 140 lbs. Price $7.25

Separator Speed Governor

This speed governor runs the separator all the time at its proper speed; it relieves the separator of all jar and vibration of the engine; it will not allow the separator to run faster than you set the pulley to run; by means of a cut out device the power can instantly be switched off, and resumed again without disturbing the adjustment. One belt is run from the engine to the governor and one from the separator. Can be driven from a line shaft or direct. Mounted on floor, sidewall or ceiling. Runs in either direction.

740A902 Speed Governing Pulley on stand. Wt., 30 lbs. Price.... $7.60

Vertical Jacks for Power Pumps $3.65

Heavy, well made jack for connecting ordinary hand pumps to engine. Strong, accurate gears. Two styles to fit any style of pump. Adjustable stroke. Fitted with tight and loose pulleys, 13 inches in diameter.

740A809 Pump Jack, with clamps only without base. Weight, 75 pounds. Price........ $3.65
740A812 Pump Jack, with heavy base. Weight, 85 lbs. Price $4.50

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Poultry

CULLING THE FARM FLOCK

In spite of my early training I have never yet learned to take any great interest in fowls except when they come on the table; and this, too, in spite of the fact that I had charge of a flock of a thousand birds for two years. However, I have always believed in the farm flock, and that it should be properly fed and watered and given sanitary or clean quarters.

Whether it is correct or not, I am of the opinion that sometimes a lack of knowledge, and a lack of real interest and enthusiasm gives a person a very practical perspective or view of the situation, or perhaps, of a particular method or operation. That tells frankly about where I stand but I must admit that my interest and enthusiasm were greatly aroused the other day when I attended a culling demonstration with P. B. Bennetch, the demonstrator of Sussex County, New Jersey. I missed my train and he suggested that I go with him to a culling demonstration up near Lafayette.

Culling The White Leghorn Flock, Sussex County, N. J., Farm

The farmer was prepared when we got there. He had locked up his flock of about 500 yearling Leghorns. Mr. Bennetch explained the nature of the demonstration by picking up a bird in the left hand, holding it by the legs so that he could turn it freely and look at its beak, shanks, ear lobes, vent, feathering, and also determine its weight.

It seems that certain principles regarding the coloring of fowls has been worked out at the Experiment Stations and Egg Laying Contests which make it possible to sort the layers from the "boarders" without trapnesting and it is just this which aroused my enthusiasm because it appeared to be so practical—a method which may be used by any farmer regardless of the size of his flock and culling must be done every year anyhow.

The principle is based on the fact that all American breeds and all Mediterranean breeds which have some yellow coloring in the ear-lobes lose this color as they begin to lay. For instance, a white Leghorn pullet just reaching maturity has bright yellow shank and beak, a high degree of yellow in the ear-lobes, and her skin, especially around the vent, is bright yellow in color. When she begins to lay the need for yolk material becomes great and the coloring material is taken from the body to supply the egg and in time these places lose all of their coloring, leaving them white. Hence, in late summer, a bird which has laid heavily will have white skin around the vent, white ear-lobes, white beak and white shanks. One which has laid only moderately will still possess some yellow coloring at these places.

There are other conditions which help to determine whether a hen is worth keeping. When each hen is picked up it is not difficult to determine whether she is healthy, free from disease, and possessing vigor. I judge from my knowledge of horses, cows and pigs that health and vigor are two very important factors, especially from the breeder's point of view. It was also brought out at the demonstration that the hen in good laying condition possesses a comb which is bright red in color, fine in texture, soft and pliable, and also that birds which moult in early summer, July and August, seldom make profitable breeders or winter layers.

After an explanation like this Mr. Bennetch proceeded to cull the birds, dividing them into three classes: First, the heavy layers to keep over winter; second, birds still laying but not worthy of keeping over as shown by the presence of some color, and a moist and enlarged vent; and third, the culls composed of those lacking vigor and weight, those already fully moulted and those showing considerable bright yellow color in their shanks, beaks, ear-lobe and vent. The first group was turned loose, a ring was put on the leg of each hen in the second group and turned loose and the third group was crated for shipment. The idea in the case of the second group was to keep them until they finish laying and begin to moult and then catch them to be sold.

The result showed there to be 226 hens in the first group, 77 in the second, and 180 in the third or 53 percent culls considering groups two and three together. Mr. Bennetch claims that this method of culling almost always shows about fifty percent culls, and results from five other demonstrations formerly conducted showed that the egg production had been reduced only slightly after removing the so-called culls.

This method of sorting the good from the bad appealed to me as one of the most practical things I have seen developed in a long while. Every farmer has got to sell off birds sooner or later and naturally wants to keep over the good hens, not only for the eggs they lay, but also for the chicks hatched from their eggs. It is surely worth a trial. Its easy and quick, and as Mr. Bennetch says: "I wish we could sort the 'boarders' out of a dairy herd as easily as that." Trapnesting is impractical from the farmer's point of view and this method fills a gap long open.—John H. Voorhees.

REMEDY FOR COLDS

The slight colds frequently taken by fowls need mean nothing serious if treated in time. The first signs of cold in a flock are usually slightly sticky nostrils, bubbles in the corners of the eyes and perhaps sneezing. This is the opportune time to treat the trouble, before it develops into such serious complications as roup.

The first effort in the right direction is the removal of the cause, followed by the administration of some remedy that will help the fowls throw off the cold.

The following remedy, which can be filled by any druggist, will be found very effective in treating flocks of poultry with slight colds: Magnesium sulphate 10 oz., magnesium oxide 1 oz., sulphate of iron 2 oz., ground ginger 2 oz., flowers of sulphur 3 oz., and red pepper ½ oz. All the ingredients should be in the form of a fine powder.

The best way we have found of administering the powder is to mix it with a moist mash, using a heaping tablespoonful to every twenty-five hens.

We have found it advisable to use the remedy in the mash two or three days in succession and then skip a few days, repeating the treatment three or four times. Successful treatment depends entirely upon the removal of the cause and early and persistent treatment. — J. Raymond Kessler, Chester Co., Pa.

GETTING WINTER EGGS ON THE FARM

Getting "winter eggs" is, as a rule, a problem on most farms. In spite of the fact that it is far easier to get eggs from well-matured pullets than it is to force the yearling hens to lay, most farmers depend on the hens. This is not at all strange when one remembers that most farm folk depend on the hen for hatching instead of the incubator, and, naturally, the pullets are seldom matured enough to produce winter eggs.

My problem was the same that confronts the usual farm woman who wants to produce eggs when they are scarce and bring a good price. If there were any eggs laid that winter the yearling hens would have to lay them as the pullets had been hatched so late that they could not be depended upon. I had only fifteen hens and no money to buy either a bone-cutter or beef-scrap. So, making the best of the materials I did have, I boiled potato peelings and thickened them while still warm with cornmeal and bran; boiled oats and rye mixed and fed them while rather hot; heated corn in the oven for them; never gave cold water, always water with the chill taken off, and supplied water three times a day. Oyster shells were free for the hauling so I had a couple of barrels of shells brought home and, with a hammer, I cracked them as needed.

Now these hens had been neglected like the usual farm flock, and soon showed their appreciation of this treatment by laying from four to eight eggs a day. This was not record-breaking but it was encouraging,

especially as it was freely predicted that they would stop laying "as soon snow flew". To my delight they laid all winter. Every winter since I have gotten eggs when I provided the proper conditions.

One winter I made the mistake of keeping too many pullets and that winter I got no eggs. Over one hundred hens and pullets were crowded into a coop that could not house that number comfortably and profitably. This over-crowding was a big mistake as I got no eggs that winter until March.

With this mistake in mind, the next June I began preparations for the winter egg yield. I had been selling broody hens and had sold quite a number of them at very good prices, getting from ninety cents to a dollar apiece; so the flock was considerably smaller than it was in the spring. I began feeding very scantily the latter part of June. Gave a light breakfast, no feed at noon and a rather generous evening meal. At the end of three weeks of this sort of feeding I began feeding heavily. I kept bran constantly before them. This bran had linseed meal mixed with it. My garden supplied sun-flower seed which they are fond of and which helps the moult. After two or three weeks it was easy to select the hens that would lay the winter eggs as they had started to moult.

This early sale of the hens you do not intend to keep thru the winter has another advantage, namely, the price of poultry is much higher at this time of the year and there is a much more ready sale for them than there will be later. So there is a two-fold advantage in forcing the moult.

I sold over two-thirds of my flock, keeping only about thirty hens. I was told that I was making a mistake by selling hens that were laying thirty-cent eggs. I responded that I was selling those that were laying thirty-cent eggs and keeping those would lay forty-cent eggs. And they did! Not only that but they laid forty-five-cent eggs. From the twenty-ninth of November until the latter part of February I sold sixty dozen eggs at forty-five cents a dozen; and lots were used in the house. Before and after those dates I received only thirty-five and forty cents. Of course by April I received only twenty-five cents but I was satisfied as, by that time, I was getting plenty of eggs and had made a nice profit on the winter eggs which the flock produced.

The chicken coop is the sort the average farm provides. There were plenty of draughts so I bought building paper and lined the interior. Put muslin over the windows after removing the glass. With boards picked up around the farm and with the help of my little brothers I managed to build a droppings platform. Straw and chaff were then spread on the floor to serve for a litter.

The same precautions as were observed the first year in regard to furnishing the hens with warm water were followed this time also. Three or four times a week boiled or steamed oats were fed in the morning. At noon wheat was fed in the litter. At night wheat and oats were fed, and sometimes one of these grains was omitted and rye was fed in its place, for the sake of variety. The boiled oats were omitted every other morning and on these mornings they got wheat that had been warmed in the oven, and the oats at noon. When a very cold night was threatening, half the usual portion of small grain was fed and corn fed in its place. They had all the bran and oyster shells they would eat. On very cold days they were given rather hot water.

When the weather permitted they got sprouted oats and rye, but with the appearance of zero weather I found it impossible to sprout them as they froze in the cellar. As I had no other place to sprout them I had to discontinue it and the hens had to do without green food.—Miss M. A. Harold, Luzerne Co., Pa.

CUT CLOVER FOR POULTRY

A pound of clover hay contains more egg-making material than does a pound of corn. It should not be inferred from this, however, that clover hay can entirely replace grain in the ration. Clover is bulky and while it is rich in food elements, the hen could not possibly eat enough of it to keep her in good condition.

With the present high prices of grains, clover hay can be advantageously used in the ration for laying hens. The throwing of loose clover hay to the hens is not an economical practice. When so fed, nine-tenths of the food is wasted. The hens will pick over the hay, scratch it into the litter and eat nothing but the fine leaves, rejecting the stems and coarser portions.

The best way to feed clover is to cut it in short lengths and feed it in the wet mash. The ration I use for late fall and winter is as follows: Two parts bran, one part middlings, one part corn-meal, one part beef-scrap and one part cut-clover. The ingredients are apportioned by measure. The clover is placed in a pail and boiling water is poured over it. The other ingredients of the mash are thoroly mixed dry, and are stirred into the mass of clover in the pail. The mash is fed while still warm.—T. Z. Richey.

Salt is just as necessary to poultry as to other animals. The only safe kind to use for poultry is very fine salt such as table or dairy salt. Salt should be supplied to the poultry in their mash, using a tablespoonful to every large bucket of meal. Fowls cannot be trusted with a free supply of salt such as rock salt grit since they will indulge to excess, resulting in death by salt poisoning.

It is a mistake to shred mangles for poultry feeding. The shredded material will be trampled and wasted by the fowls whereas by feeding whole beets the entire root is good until consumed. When beets are first fed to mature fowls it is well to cut them in half to induce the hens to pick at them, but after that the whole beet will be best. For young chicks it is necessary to cut the roots in half and for the first few days scrape them a little with a knife so as to teach the chicks to eat them.

Limberneck.—I am quite sure that my chickens have been dying from an ailment which my neighbor calls limberneck. Please tell me what causes this disease and if you know of a remedy, tell me what to give them. T. A. W., Munson, Pa.—Limberneck is one of those convenient generic terms poultry men use for any ailment affecting fowls where the sickness causes the bird to hold the head low. Limberneck is one of the symptoms of ptomaine poisoning. Burn the carcass of every dead bird, discontinue feeding decomposed meat or fish, clean and disinfect the hen house and yards.

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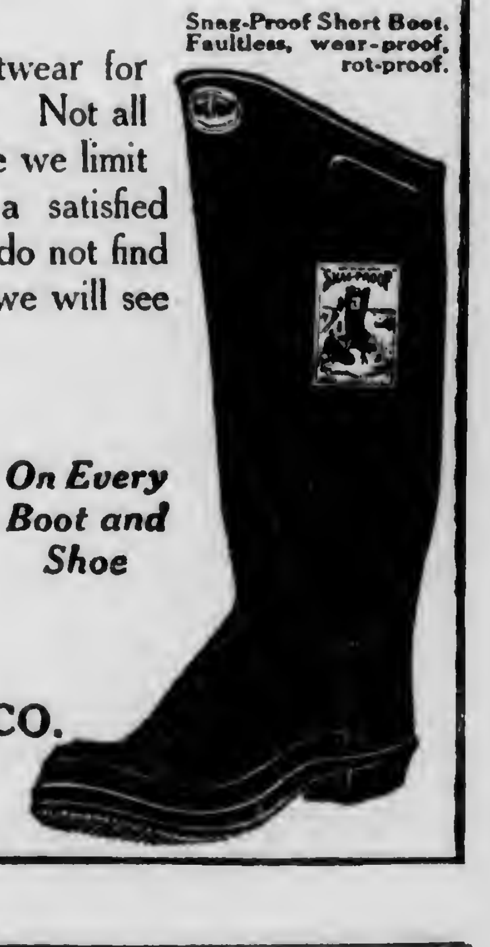


How We Can Our Meat

For Variety and Economy

It is just as practical to have canned meat in the home storeroom as it is to have canned fruits and vegetables. The busy farmer's wife will find it very convenient to have a supply of canned meats of different kinds when unexpected work hands or guests come in just as a meatless meal is almost ready to serve. Home canned pork, beef, chicken, lamb, mutton and veal are all delicious and may be served cold or heated. They are fine for Sunday evening suppers or the picnic lunch. Pork tenderloin is especially nice for lunches.

Meat stock is also largely canned at our house for using to good advantage in making soups or in cooking many of the vegetables. We pour the boiling hot stock into sterilized cans and seal at once.

To can any kind of meat, we cut it from the bones in pieces so they will go in a can, drop them into boiling water and let boil 5 minutes, lift out and pack tight into glass cans, add 1 teaspoon salt to each quart can, fill with boiling water, put on rubbers and sterilized cover, partly tighten, and cook quart cans 3 hours in hot water bath (wash boiler method) or 1½ hours at 8 pounds pressure or 1 hour at 15 pounds pressure in steam pressure canner. Seal at once when cooking stops.

Spare-ribs Canned Without Bones

Canned spare-ribs make excellent pot pies and may be canned with or without the bones. However, we think that the bones sometimes cause the meat to have an old strong flavor. We chop the ribs across three times, making four strips, then cut between the bones, allowing two bones to each piece. Drop the pieces into boiling water and boil 20 to 30 minutes, lift out and remove bones at once, thus: Hold the bones in left hand and with a sharp knife cut the covering over the bone on the inside of rib, cutting lengthwise of the bone and it will come out without any meat on it, as illustrated on the small plate in front of me in the large photo. The short period of cooking shrinks up the meat and is just right for loosening the bone. Also, more of the boned meat can be packed in a can after it is thus partially cooked, and it is easier done. Pack and sterilize as above directed.

Canned Sausage

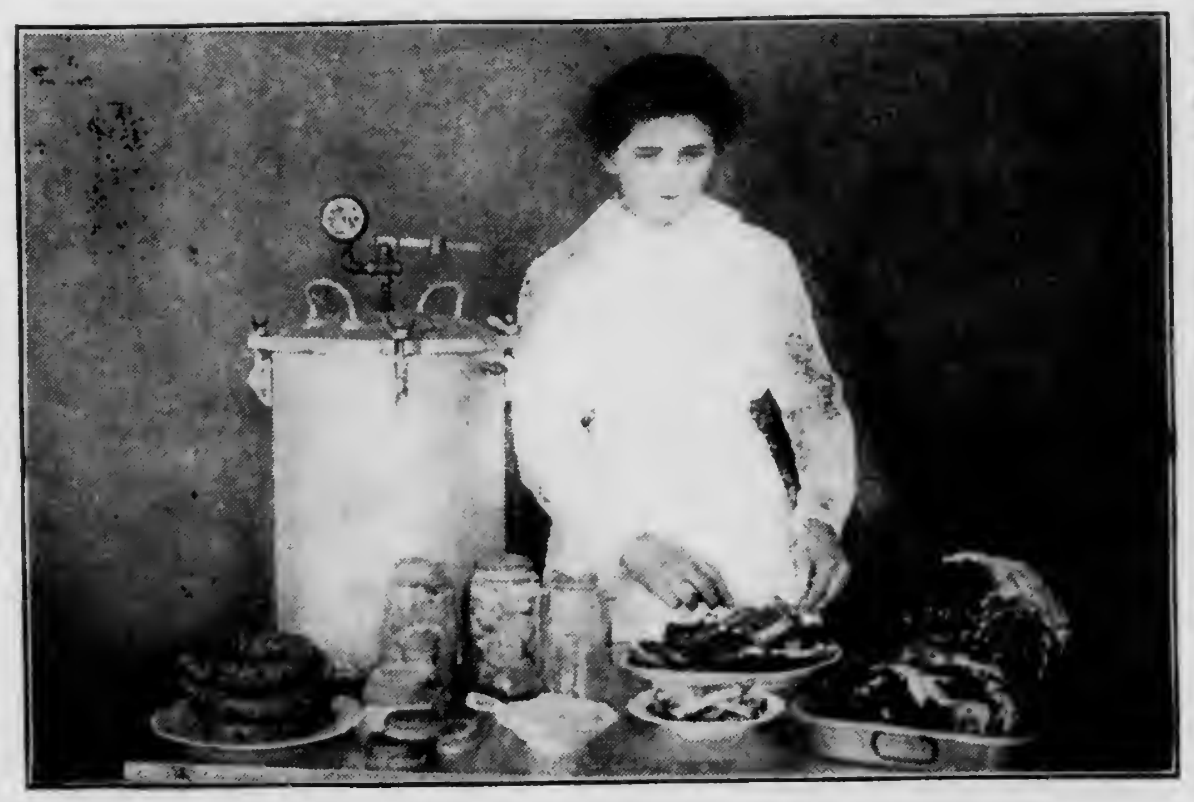
Cut stuffed sausage into about 3-inch lengths, pack tight into cans without boiling or frying, and sterilize same as other meats.

Roasted Sausage

Pack loose sausage into half-gallon or gallon stone crocks, making them almost full. Put crocks in the oven and roast at a moderate heat for 3 to 3½ hours. When taken from the oven, put a weight on top of sausage until the fat begins to harden. (A saucer turned upside down with a flatiron placed on it makes a good weight.) If there is not enough fat to cover top, put on enough melted lard to cover well. When cold cover closely and keep in a cool cellar. Will keep six months. When wanted remove fat, slice and fry.

Sausage in Lard-Skin Casing

The thin transparent skin covering the leaf lard makes the best sausage casings. As soon as the entrails are removed from the hog, carefully remove the lard skins and stretch them on a clean wide pine board. Place the side of skin with the lard adhering to it up. The skin will adhere to the board by carefully pulling and smoothing it down with the hands. Scrape off all the fat with a dull table knife. As many skins as wanted may be stretched over another until all are stretched. It is best to have a board long enough to accommodate two skins in length so there will not be so many on top of others; this will allow better drying. When all the skins are stretched place the board in a cool, airy place for several hours to dry the skins. Then pull all skins off the board except the first one put on. Fold this over half and trim even with a sharp knife to form sort of a sack any size desired. Lay each one as trimmed on a sheet of easily torn paper. All are trimmed as the first one. Lengthen the stitch and loosen the tension on your sewing machine and sew around the three cut sides of each casing, leaving an opening of two inches at one end to slip on the horn of sausage stuffer. Sew one-half inch from edge, so they will not pull out. After sewing pull the paper off. Place the casings in warm water to soften them. Then stuff them the same as any other sausage casing, being sure to have them full and firm but not so tight as to burst them. As soon as stuffed press the opening together. The next day tie twine around them and hang up to smoke. When smoked, hang in a cool, dry place where they will not freeze. Slice, remove the skin and fry the same as any meat. It takes a little more time to prepare lard-skin casings, but we think that it is time very profitably spent, for the sausage keeps much better in them.



Making Ready to Can Meat

Photo shows Miss Kintigh boning spare- ribs preparatory to packing the meat in the cans; also two cans of pork tenderloin already packed, a plate of sausage, a side of ribs ready to prepare for canning, and her steam pressure canner in which she "processes" or steams the cans.

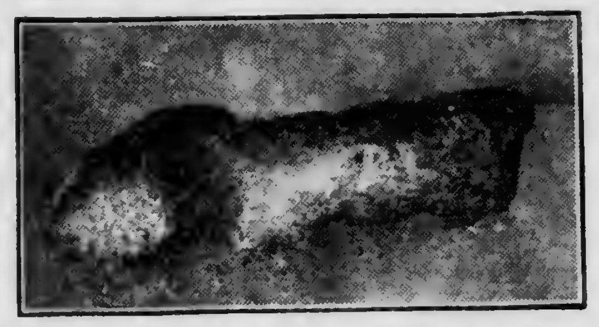
Pork Mince Meat

To 6 pints of ground meat (use the cooked head meat) allow 12 pints chopped apples, 3 pints boiled down cider, 3 pints sugar, 1 pint water, 4 pints raisins, 4 pints currants and cinnamon and cloves to taste. Soak the raisins and currants over night and cook until almost tender before adding them to rest of mince meat mixture. Mix all the ingredients together, cook 15 minutes, and put in crocks or cans.—Mary A. Kintigh, Westmoreland Co., Pa.

KEEPING CIDER SWEET

"Can you give me a recipe for curing sweet cider by the barrel, so it will not get hard? I do not want to boil it."—E. Clyde Elvin, Chester Co., Pa.

Cider gets "hard" because certain yeasts or ferment spores on the skins are incorporated in it, and also other yeasts settle out of the air on the pomace and the juice. These yeasts multiply rapidly in temperature much above 40 degrees; the warmer it is the faster they multiply.



Sausage in Lard-Skin Casings

Note how the transparent skin lets the sausage show thru. These skins are air-tight, therefore much better than muslin sacks. Sausage cased this way finds ready sale among their town folks, says Miss Kintigh.

Therefore, you can see that if you wish to get cider that is going to be easy to keep sweet without chemical preservative, which is very undesirable and against food laws if the cider is sold, you must have your apples in as clean and otherwise good condition as possible. We can not make good cider that will keep sweet a long time with unsound, unclean apples. Mills that make "sweet cider" wash the apples, generally by passing them on moving belts under, first, jets of clear water, then jets of 2 to 5 percent formalin solution, then under rinsing jets of clear water. Then they are ground in sterilized mills, immediately pressed in sterilized racks and cloths, the juice filtered, settled and racked off the settlings at least twice, all the time keeping it in a temperature not higher than 40 degrees, and racking it off thru a sterilized pipe or rubber hose into a sterilized barrel, in order that no spores from the air may come in contact with it. Then it is given a final filtering thru paper pulp, and sealed in jugs or bottles like grape juice, or in barrels with sealed bungs.

The home cider maker can wash the apples if he grinds and presses them at home, but the proposition is scarcely practicable where one has to carry the apples some distance to a mill, and the ordinary grinding and pressing cider mill has no facilities for washing apples in quantity, such as described above. With such cider, the best you can do is to get it home immediately, and immediately sterilize it by heat in cans, jugs or bottles, the same as for canning fruit, as follows:

Fill the cans with the fresh cider, add 1 tablespoon sugar per quart, put on rubbers, adjust covers loosely, set cans in warm water on a rack in wash boiler or vat over an arch (cover 2 inches with water), cover the boiler, and boil 8 minutes after cooking commences. Then at once remove cans and tighten covers. This gives a cider that does not taste cooked. This method is also good for grape juice—makes it taste like fresh juice just out of the grapes.

MADE WITH WINDFALL APPLES

Good Apple Butter.—Wash, slice and cut into small pieces. Add 4 gallons of water for each bushel of pieces. Boil until soft, rub thru a sieve to remove the skins. To the pulp from each bushel add 2 gallons of boiled-down cider, bring to a boil, then add 12 lbs. sugar per bushel of the original measure. Cook until of the proper consistency, add cinnamon and cloves to taste, mixing them in well. Pour at once into hot jars and seal immediately.

Apple Syrup.—Put the apples thru a cider press. To 7 gallons of the cider add 5 ounces of precipitated chalk (carbonate of lime), which you get at the drug store. Boil vigorously for 5 minutes, pour into suitable vessels and let stand 8 hours to settle. Add 1 level teaspoon of the lime carbonate and stir thoroly. Boil rapidly until reduced to about one-seventh original volume. To test, pour a little into cold water. It should have the consistency of maple syrup, and should not be allowed to get too thick. Pour into fruit jars (heated by standing in hot water so that they will not crack when the hot syrup is poured in them); put on the rubbers and the covers loosely, set the cans in a wash boiler (on a wooden or metal rack in the bottom to keep the cans off the bottom), cover at least two inches with hot water, and boil 15 minutes, counting from the time that the water begins to boil. Just as soon as the time is up, remove the cans from the water and tighten the covers, stand the cans on their heads to determine whether any of them leak around the rubbers. Let stand this way until cold, then put away without trying to turn the covers any more, for if you do you will break the seal made by pressing the cover edge into the soft rubber.

Canning the Windfalls.—Pare and core, cut out the rot spots and the bruised places, quarter or slice as preferred, drop into slightly salted water as sliced to prevent turning dark. Put enough to fill two or three cans in a cheesecloth square, plunge for 1½ minutes in a kettleful of boiling water, then dip into cold water to stop the cooking and pack at once in hot cans. Fill the cans with hot syrup, put on the rubbers and tops loosely, set on the rack in the wash boiler, with water at least two inches above the cans, and cook 20 minutes from the time that the water begins to boil. Then remove the cans, tighten the covers and let stand upside down until cool, as directed above. Thus, you will have saved your cull apples for future apple sauce, pies, puddings, etc., when otherwise much of them would undoubtedly waste before you would notice it. Besides, thus canned they are already at an instant's notice for use. These are reliable directions furnished by the canning experts of the U. S. Department of Agriculture.

SPREAD THE MEAT FLAVOR

Spread the meat flavor over other foods and so economize on the quantity of meat consumed. Here are some ways to spread the flavor:

Meat Stew with Dumplings

Make a stew from a cheap cut of meat cut into small pieces, potatoes, and such other vegetables as are desired. Thicken with a little flour diluted with cold water. Serve with dumplings made as follows: Mix and sift 1 cup flour, 2 teaspoons baking powder and one-quarter teaspoon salt. Work in with the fingers 1 teaspoon butter; add gradually one-third cup of milk or a little more if needed. Roll out ½ inch thick, and cut with a biscuit cutter or in square pieces. The dumplings may be steamed, baked like biscuits, or cooked with the stew. In the latter case remove enough liquid to permit the dough to be placed on the meat and vegetables.

Meat and Pastry Rolls

Chop the meat fine and season it well. Mix in enough butter or other fat to make it "shape" well. Form into rolls about the size of a finger and wrap around each a thin piece of short dough made from 1 pint of flour, 2 tablespoons baking powder, salt and milk enough to mix. Bake the rolls in a hot oven until they are a delicate brown. Serve hot.

Helmet Cap for Winter Rides

(Photo by Underwood & Underwood.)

Eggplant and Meat Pie

Cook together in a baking pan alternate layers of eggplant and chopped cooked meat salted to taste. If raw meat only is available it may be fried until brown before baking. Tomato juice or pulp, or a few sliced tomatoes may be added if desired.—U. S. D. A.

WHAT MY GARDEN DID

In these days every one works in the garden, but not many have much occasion to work in the orchards in our section. However, daughter and I have been busy all day husking sweet corn, picking pears, "topping" onions, beets, carrots, and turnips and gathering tomatoes. So few tomatoes ripened that we canned but one quart, tho we have plenty of green ones. I pulled some of the best plants and hung them up in my woodhouse and I am hoping that some of the tomatoes on them will ripen yet. We usually get our last ripe ones in this way. The green ones are fine for mustard pickles, chowder, sliced sweet pickles and a variety of other good things anyway.

We always make any pears that are too rough and uneven or too dead ripe for canning into pear butter, of which we are all very fond. The girlie and I picked (and picked up from the ground) about four bushels of Kieffers this afternoon, but the wind blew a hurricane so that I picked only about a bushel off the ladder. The weather was better suited to garden work, so we went at the roots. I had a little patch of onions not quite 8 by 40 feet, tile drained, fall plowed and fertilized entirely with hen manure because I failed to get any commercial fertilizer. Before harrowing we sometimes emptied the ash-pan on that spot and the onions—Prizetakers and Yellow Glove Danvers—grew as if they liked it, despite the inclement weather. It rained until the middle of summer and then we didn't get another shower until fall; the soil resembled a very good pavement, and we thought roots could not grow at all; but we have just topped a lot of onions that measure 4 inches in diameter, more than 12 inches around, and weigh nearly a pound. From a little less than 300 square feet we harvested over 7 bushels of beautiful Prizetakers—we could hardly find enough little ones to make our own mixed pickles.—Mrs. E. M. Anderson, Chautauqua County, N. Y.

HOW MANY CANNED VEGETABLES THIS YEAR?

What did you can, how much, how did you do it, and what success did you have? We want to hear from our women readers on this home canning of vegetables.—The Editor.

MENDING FRAYED SHIRT CUFFS

A simple method of prolonging the usefulness of a shirt consists in binding the edges of the cuffs with white linen tape, ⅜ inch wide. The tape is basted carefully with an over and over stitch and is then stitched with loose tension on the sewing machine. When the shirt is laundered the tape has a very neat effect and the cuff is as good as new, and will usually outlast the rest of the shirt. It has prolonged the life of my husband's shirts for months. It is comparatively easy and simple.—Mrs. Lillian B. Arthur, Center Co., Pa.

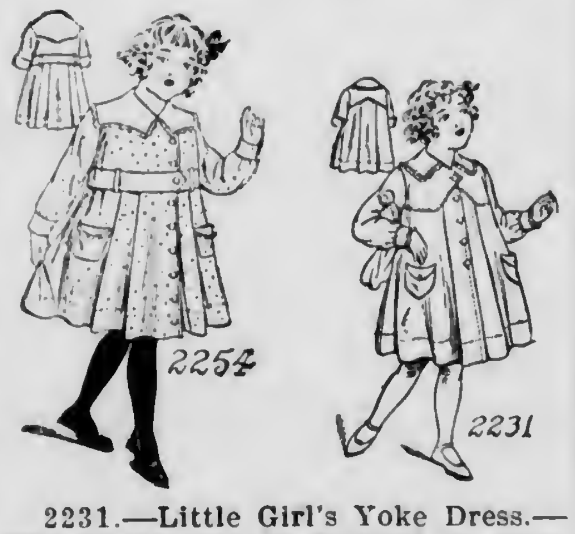
The licensing of fruit and produce dealers will increase the confidence of producers as well as consumers. It will be an incentive toward greater production.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

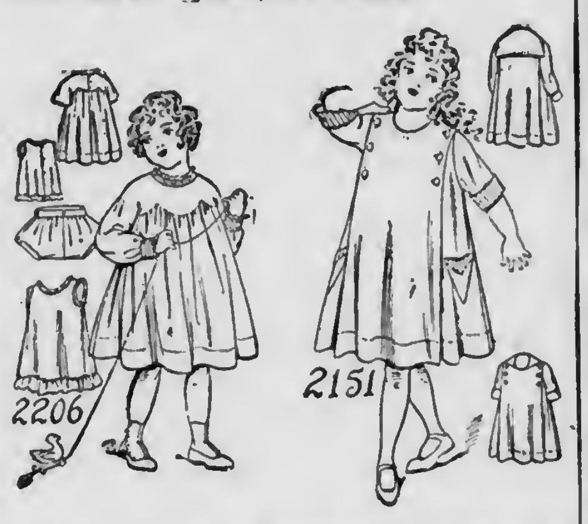
Frocks for Little Girls

2254.—Stylish for the Little Girl.—The right front overlaps the left, at the closing. The sleeve may be in wrist or elbow length. Pattern comes in 5 sizes: 2, 3, 4, 5 and 6 years. Size 4 requires 3⅛ yards of 36-inch material. Price, 10 cents.



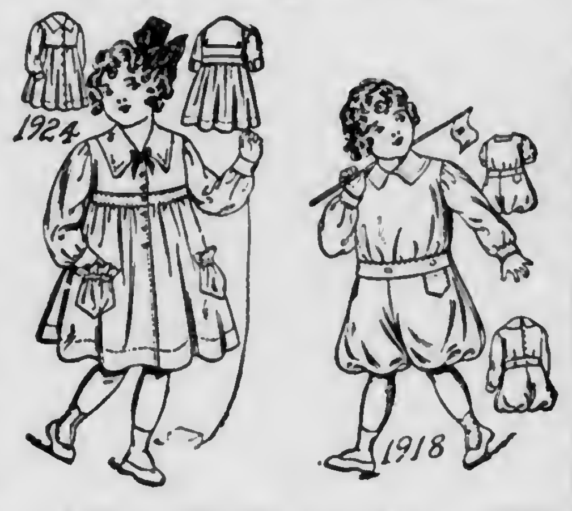
2231.—Little Girl's Yoke Dress.—The sleeve may be finished in wrist or elbow length. Pattern comes in 4 sizes: 2, 4, 6 and 8 years. Size 6 will require 2¾ yards of 36-inch material. Price, 10 cents.

2206. — Practical Set for Little One.—This comprises a little yoke dress, suitable for wash or woolen goods, a petticoat slip, nice for lawn, cambric, flannel or flannelette, and comfortable drawers that may be made of muslin, longcloth or canton flannel. Pattern comes in sizes: 1, 2, 3 and 4 years. The dress requires 2½ yards of 36-inch material, the slip requires 1½ yards, and the drawers require 1⅛ yards, for a 3-year size. Price, 10 cents.



2151.—Girl's Dress with Sleeve in Two Lengths.—This is a comfortable style for school or play dress and easy to develop. Pattern comes in 4 sizes: 2, 4, 6 and 8 years. It requires 3¼ yards of 24-inch material for a 4-year size. Price, 10 cents.

1924. — Child's Dress in Empire Style.—The sleeve is in wrist length or in elbow style. Pattern comes in 4 sizes: 2, 4, 6 and 8 years. It requires 3⅛ yards of 44-inch material for a 6-year size. Price, 10 cents.



1918. — Child's Rompers. — With round collar or square neck, and long or short sleeves. Pattern is composed of a waist and bloomers, which may be joined to the waist or buttoned on separately. The design is cut in 3 sizes: 2, 4 and 6 years. It requires 3 yards of 36-inch material flannel. Pattern comes in 4 sizes: 1, for a 4-year size. Price, 10 cents.

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Christmas Booklets—20 for 25c

We have sold these Booklets for several years and thousands of people all over the country order them each Christmas. Nor is it any wonder when you consider their really remarkable value and artistic beauty, and the fact that you can get twenty neat, artistic, personal Christmas gifts for 25c. All of us have friends whom we wish to remember each Christmas but to whom it is not necessary to send an expensive gift. These little booklets meet such a need exactly. The illustration shows three of the cover designs. These covers are beautifully lithographed in Holiday colors. In each package there are seventeen others equally pretty. Each booklet has four inside pages and the cover; average size about 3 x 4 inches although the size varies with the different designs. On the inside centre page is an appropriate Holiday sentiment and a place to sign your name. Each cover design is different.

The twenty booklets and twenty envelopes with which to mail them will be sent prepaid for 25c. Quantity is limited. Orders must be received at once.

Ask for our large Circular of Christmas Goods

Strawbridge & Clothier, Philadelphia

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Nov. 5, 1917.

Notwithstanding the decline in the market as was reported in these columns last week, supplies of potatoes have been greater than the demand, and stock has gradually been accumulating. The delivery yards of the Philadelphia and Reading Railway were filled to their utmost capacity and in addition there were today 118 cars on track outside the yards waiting room to be placed. These excessive supplies caused the Philadelphia and Reading Railroad Co. to place an embargo against potato shipments to this market until present accumulations are cleaned up. The demand and movement is only fair and prices are much lower and favoring buyers. Pennsylvania round stock is selling at $1.50 to $1.60 per bushel and New York State potatoes, $1.40 to $1.50. New Jersey Giants in 150-pound sacks are bringing $3.25 to $3.40 per sack. Nearby farmers are hauling in quite a few and these are ranging from 80 to 90 cents per ⅝-bushel basket with No. 2 stock around 60 cents.

Sweet potatoes are meeting a rather slow demand. Supplies from New Jersey are quite liberal and some of them are showing the effect of cold weather. Prices show a little decline over last week, yellow ranging from 50 to 75 cents per basket and reds mostly 75 cents with a few at 80 cents. Eastern Shore barrels sold mostly from $2.50 to $2.75, with a few bringing $3 for prime stock while No. 2 stock sold all the way from $1 to $1.50.

Vegetables

Offerings of dried beans are light and the market rules firm and higher. Choice hand picked marrows bring $9.50 to $9.75 per bushel, with pea and medium selling at $9.25. Red kidneys bring from $8.40 to $8.50. Quite a few green beans from Florida are now arriving on the market selling from $3.50 to $4.50 per hamper. There have been no wax beans on the market for several days. Bunch beets are firm and active at $3 per 100 when fancy, but some poor qualities sell as low as $1.50. Loose winter beets are more plentiful and slightly easier, ranging from $2.50 to $2.75 per barrel. Brussel sprouts when showing good quality are in good demand at 14 to 16 cents per quart, but when poor and yellow sell slowly at 10 to 12 cents. Our last week's prediction that the high prices that were then prevailing in cabbage would not be maintained has turned out to be correct, except that the drop was greater than we expected and prices are $12 to $15 per ton lower than our last week's report. This big decline in prices was brought about by the excessive supplies at the opening of business Monday. There were 48 cars of cabbage in the Reading delivery yard and 113 cars outside waiting to be placed. These excessive supplies caused the Reading Railway Company to also place an embargo on cabbage to this market until accumulations are cleaned up. Cauliflower is in liberal supply and market is weak and lower, most sales ranging around $2 per crate. Fancy celery rules steady at 25 to 55 cents a bunch. Eggplants are scarce and when showing quality are selling at high prices, some fancy stock from Florida selling up to $4.50 per crate with poor stock selling on down as low as $3. Lima beans are scarce and active at $2.75 to $3 per bushel bag. Mushrooms are a little lower than last week's prices, now ranging from $1.35 to $1.75 per No. 4 basket. Onions are another commodity that has been in liberal supply, and with a light demand the movement is slow and prices about 25 cents lower. New York State and Ohio are selling from $2.75 to $3 for best stock, with No. 2 stock as low as $1.50. Some California Austrian Browns are selling at $3 to $3.25, but very few sales were made at the outside figure. Some southern peas are making their appearance on the market and prices ranged from $3 to $5 per bushel hamper. Parsnips are in fair supply and meeting a steady demand at $2.75 to $3.25 per barrel. Pumpkins are quite plentiful, but moving freely at $5 to $15 per 100 as to size. Scullions are quite plentiful and selling at $1 to $1.50 per 100. Peppers are irregular in quality and show a wide range in price. The range is all the way from 25 to 75 cents a basket for green, with reds bringing from 75 cents to $1.25 per basket. Cayenne also sell at 75 cents to $1.25, and green tomatoes from 50 to 75 cents. Spinach is active at 35 to 40 cents a basket. Nearby tomatoes are so poor and irregular as to hardly warrant quotations. The only good tomatoes arriving are hot house stock and they are bringing from 20 to 25 cents per lb. Turnips are more plentiful and the market easy, white ranging from 30 to 40 cents per ⅝-bushel basket. Rutabagas are in light supply and sell from $1.50 to $1.75 per cwt. Watercress is in light supply and meeting a fair demand at 1½ to 2 cents a bunch.

Fruits

While receipts of apples have been a little larger than last week there has been a large proportion of better grade fruit, and prices on the whole seem to be more satisfactory. The poor and ordinary stock which was in heavy supply on the market last week has been cleaned up in good shape and prices on fresh offerings of undergrade fruit appear to be a little firmer. Prices per barrel are now ranging about as follows: Baldwins, $2.50 to $5; Ben Davis, $2.50 to $3.75; Black Bens, $2.50 to $4.25; Black Twig, $2.75 to $4.50; Gano, $2.50 to $4; Greenings, $3 to $5.50; Hubs, $3 to $5; Kings, $3.50 to $5; Spys, $3.50 to $5.50; Stark, $3 to $4.75; Staymans, $3 to $5.25, with extra fancy $5.50 to $6. Rome Beauty, $4 to $6; Twenty Ounce, $3 to $5; York Imperials, $2.50 to $4.50; extra fancy, $4.75 to $5; Grimes Golden, $3.50 to $6; odd unclassified and mixed varieties, $2.50 to $4. Western box apples are selling about as follows: Jonathans, $1.50 to $2.50; Winter Bananas, $2 to $3; Delicious, $2.75 to $3; bulk apples are ranging from $1.50 to $2 per cwt. There are only a few pears on the market, but the demand is indifferent and the movement is slow. Bartletts are selling from $1.50 to $2 per bushel; seckels, $2 to $3; Beurre de Anjous, $1.50 to $1.75; Beurre Clarigeaus, $1.25 to $1.50; Duchess, $1.25 to $1.50. The sugar famine caused the bottom to drop out of the quince market and they are only bringing $2.50 to $3 per barrel. With the season fast winding up on grapes and supplies gradually getting lighter the tone of the market seems to be improving, and concords free of frost are selling at 60 to 65 cents per jumbo basket and stock showing frost is selling at 50 to 55 cents. Pony baskets are selling at 15 to 16 cents, and 4-quart baskets, 20 to 22 cents. Niagaras are selling at 12 to 15 cents per pony basket. Altho demand for cranberries is not very active, supplies are light and the market rules firm at $8.50 to $12 per barrel, and $2.50 to $3.25 per crate. Chestnuts are in light supply and the market firm and from $1.50 to $2 per bushel higher than last week, prices now ranging from $6 to $6.50 per bushel, with prospects still higher.

Poultry

Receipts of live poultry have been rather moderate and under a fair demand the limited offerings of strictly fancy desirable size stock has been cleaning up promptly with values being well maintained. Quotations are about as follows: Fowl as to size and quality, mostly 20 to 23 cents with some exceptional lots up to 24 cents; roosters, 18 to 19 cents; spring chickens, not Leghorns, 20 to 23 cents as to quality; spring chickens, Leghorns, 19 to 21 cents. Ducks, 19 to 22 cents; spring ducks, 22 to 23 cents. Turkeys, 24 to 26 cents; young guineas weighing 1½ to 2 lbs. each, 90 cents to $1 per pair; small sizes, 75 to 80 cents. Old guineas, 60 to 65 cents per pair. Pigeons, 20 to 30 cents per pair.

Under fairly liberal offerings the market on dresed fowl has declined about 1 cent per pound, and the market is ruling quiet. Other kinds of dressed poultry are quiet, but prices firmly maintained. Prices are ranging about as follows: Fancy heavy fowl, 25 to 27 cents; small sizes, 22 to 24 cents; old roosters, 21 to 22 cents; roasting chickens, 23 to 26 cents, as to size and quality. Fancy broilers, 33 to 36 cents; small and poor, 28 to 30 cents. Turkeys, nearby, 30 to 34 cents; western, 30 to 32 cents. Ducks, 25 to 28 cents.

Eggs

The market on strictly fancy fine fresh eggs shows quite an advance over our last week's report, supplies of this grade being light and cleaning up promptly at the higher prices under a firm and active demand. Under grade eggs, however, are meeting a slow sale at irregular values. Current receipts are now selling at 43 to 44 cents; firsts, 46 to 47 cents. Undergrade eggs range all the way from 33 to 35 cents. Selected, carefully graded, well-candled eggs are being jobbed out at 54 to 55 cents per dozen.

LANCASTER PRODUCE

Lancaster, Pa., Nov. 5, 1917.

With eggs selling as low as forty cents a dozen in rural stores, farmers on this morning's market maintained a price of sixty cents a dozen for the best eggs. At the same time, the prices of potatoes have been jumped again, and reached a top price this morning of $1.75 per bushel. Chickens of all grades were again scarce.

Butter and Eggs.—Creamery butter, 52@55c per lb; country butter, 50c; fresh eggs, 60c dozen.

Poultry.—Dressed old chickens, $1.25@1.50; dressed young chickens, 75c@$1; live chickens, $1.50@2 per pair; live old chickens, 18 cents per lb.

Vegetables and Fruits.—Corn, 25@40c per dozen. Lima beans, 18c pt. Celery, 5@10c bunch. Lettuce, 5@12c head. Dry onions, 5@10c box. Eggplants, 5@10c each. Cabbage, 2@8c head. Sweet potatoes, 30c ½ pk. Potatoes, 18@25c ½ pk.; do., $1.25@1.75 per bushel. New turnips, 15c ½ pk. Spinach, 5c ½ pk. Tomatoes, 10@12c box. Grapes, 20@25c bas. Apples, 10@20c ½ pk. Pears, 15c ½ pk.

Grain Market.—Dry wheat, $2 bu; milling wheat, $2; damp wheat, $1.75; corn, $2; rye, $1.60; oats, 65c; No. 1 timothy hay, $20 per ton; straw, $9.

YORK PRODUCE MARKET

York, Pa., Nov. 5, 1917.

Eggs.—46@50c per dozen.

Butter.—Country, 45@48c lb; separator, 48@50c lb. Milk, 10 cents a quart.

Poultry.—Hens, 18@19c lb; dressed, 50c @$1.10 each.

Vegetables. — Potatoes, 15@20c ½ pk; $1.15@1.35 bu. Cabbage, 3@12c. Lettuce, 2@5c hd. Beets, 5c bch. Radishes, 6c bch. Onions, 10@12c bx; 20@25c ½ pk. Soup beans, 30c qt. Celery, 5@10c stalk. Tomatoes, 10c bx. Turnips, 10@15c ½ pk. Eggplants, 3@8c each. Corn, 25@30c doz. Corn meal, 10@12c qt.

Fruit.—Apples, 10@25c ½ pk. Pears, 5 @ 10c bx; 15c ½ pk.

Retail Grain Market. — Wheat, $2.25; corn, $2.25; oats, 90c; rye, $1.60; bran, $2.10 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $2.05; corn, $1.90; new, $1.30@1.50; oats, 65c; rye, $1.35; bran, $37.50 ton; middlings, $57 ton.

NEW YORK PRODUCE

New York City, Nov. 5, 1917.

Butter market opens with supplies a little short of fine stock. Cheese market developing a firmer tone. Scarcity of new laid eggs is becoming more acute and prices show a further advance. Potatoes in good demand.

Butter.—Creamery, extras (92 score), per pound, 44½@44¾c; higher score, 45½@45¾c; thirds to firsts, 39@44c; state dairy, 36@43½c; ladles, 37@41c.

Eggs. — Fresh gathered extras, 49@50c; extra firsts, 47@48c; nearby white, fine to fancy, 72@78c; ordinary to good, 60@70c; browns, 52@60c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 38@40c; old roosters, 19c; squabs, $2.75@6.25 per dozen. Spring ducks, per lb., 25@27c; turkeys, fresh killed, 30@35c.

Vegetables and Greens.—Beets, bbl., $2.50@3. Onions, per 100-lb. bag, $2.25@3.50. Potatoes Jersey, $3@4 per bbl; state and western, $3.60@4.25 per bbl. Carrots, $1.50@2.25 bbl. Peppers, bbl., $2.50@5.

Apples. — Wealthy, $3@5.50 bbl. Wolf River, $2.50@5; McIntosh, $3@7; Jonathan, 3@7.50; York Imperial, $2.50@5; Twenty Ounce, $2.50@5.50; King, $2.50@5.50; Baldwin, $2.50@5.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., Nov. 5, 1917.

Beef Cattle.—Offerings of desirable stock were moderate, but sufficient to meet requirements. Demand, while not active, was a little better than has been recently noted and values were steadily maintained.

Steers.—Good to choice, $11.75@13.75; fair to good, $10@11; medium to fair, $9@10; light and common, $8@9; milk cows, $75@120; bulls, $6.25@8.50; extra choice higher; cows, fat, $8@8.50; extra choice higher; medium, $6.75@7.75; fair, $5.25@6.50; ordinary, $4.25@5; calves, exceptional lots, $16.50@17; good to choice, $14.50@15.

Hogs.—Offerings were only moderate and the market continued strong and higher, due to a fairly active demand and in sympathy with the upward movement of outside markets. Quotations for best western, $19.50.

City Dressed Stock.—The general market ruled steady with inquiry showing improvement. Hogs were held higher.

Steers, 15@21c; heifers, 14@18c; cows, 10@16c; calves, 21@22c; southerns and barnyards, 16@18c; country dressed, 19c; do. extras, 20c; sheep, 21c; do., extras, 22c; lambs, 26c; do., extras, 27c; hogs, 24½c.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., Nov. 5, 1917.

The receipts of cattle for today's market were 226 cars, as compared with 210 cars last Monday. The supply came from Virginia, 88 cars; Chicago, 77; Buffalo, 31; New York State, 14; Pennsylvania, 6; St. Louis, 4; Indianapolis, 2; Pittsburgh, 2; Maryland, 1; Cincinnati, 1. Nobody expected that the receipts would be more than 175 cars, therefore, the number on sale was too big to enable salesmen to get a clean-up, and the difficulty was added to by the late arrival of trains carrying feeders from Chicago and Buffalo. Fully 40 cars of these late comers were not offered for sale today.

The supply suitable for slaughtering purposes was exceedingly limited. Only one car of good butcher steers was on sale. It came from Virginia, weighing 1,195 pounds and sold at $13. Another car of Virginias that weighed 1,170 that had some fat but not much quality, sold at $12.10. Several loads weighing 1,000 to 1,100 pounds sold at $11 to $11.50. One car of very good Virginia heifers on the yearling order weighed 890 pounds and sold at $11. Several cars of pretty good Virginia heifers, weighing 880 to 950 pounds sold at $10 to $10.50.

Stockers and feeders all cost higher last week in the markets from which they were shipped. Naturally, salesmen tried to get an advance in price here that would cover the advance in cost price at Western markets. In this they were only partially successful. The run of feeders was heavy considering the lateness of the season and the large number that have been distributed from here the past two months. The early trading in feeders was slow. Buyers made a determined effort to get them at the prices of last week, but when they found that couldn't be done, they yielded and gave part of the advance asked, particularly on desirable kinds. As usual the Canadian feeders "topped" the market. Some of the representative sales of the Reds and Roans that came from the Dominion of King George, were as follows:

One bunch of 20 head weighing 1,100 pounds, at $12.50. One of 10 head weighing 1,100 pounds, at $12.40. A bunch of 38 head weighing 1,050 pounds at $12. Another of 18 head weighing 1,000 pounds at $12. Three bunches of 10 head weighing 950 pounds at $11.75; 2 bunches of 15 head each, weighing 1,030 pounds at $11.75; 12 head weighing 930 pounds at $11.50; 10 yearlings weighing 800 pounds at $11, and a number of bunches of only a fair kind weight 850 to 875 pounds at $9.75 to $10.50.

Two carloads of N. Y. State feeders averaging 1,040 pounds went to Lebanon County at $10.75. One bunch of 12 head of feeders that came from Chicago weighed 1,030 pounds and sold at $11.50. Another from the same place, weighed 1,000 pounds and sold at $11.35. A good many lots of feeders that came from Chicago and were a pretty good kind weighing 950 to 1,000 pounds sold at $10.40 to $11. Some nice 750- to 800-lbs. feeders from Chicago sold at $9.75 to $10.25. One bunch of 30 head of Polled Angus that came from a Western market weighed 800 pounds and sold at $10. Another bunch of 43 feeders, some that were pretty good and some that didn't have very much quality, weighing 1,046 pounds sold at $10.90. A plain grade of feeders weighing 850 to 900 pounds sold at $9 to $9.50. Several lots of pretty good yearlings weighing 600 pounds, horned and dehorned mixed, sold at $8.75 to $9.25. A plain grade of stockers, 700 to 800 pounds, sold at $8 to $8.50. Common stockers, 500 to 700 pounds, sold at $6.25 to $7.25.

This is a pretty good time to not "put off until tomorrow" what you can do today. If anybody has an idea that he's going to get cheap feeders this fall by waiting for the usual November clean-up, he might as well forget it, because there "ain't" going to be no usual November clean-up this year, such as there have been in preceding years. This is a different year in more ways than one.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Nov. 5, 1917.

Baled Hay and Straw.—Receipts, 372 tons of hay and 2 cars of straw. Receipts of hay were moderate and values were well maintained with demand absorbing the offering. Straw was in fair request and firmly held.

Timothy hay, according to location: No. 1 large bales, $27@27.50; No. 1 small bales, $27@27.50; No. 2, $26@26.50; No. 3, $23@24.50. Clover mixed hay: Light mixed, $26@26.50; No. 1, do., $25@25.50; No. 2, do., $22@23.

Straw.—No. 1 straight rye, $17; No. 2, do., $16@16.50; No. 1 tangled rye, $16; No. 2, do., $15@15.50; No. 1 wheat straw, $14@14.50; No. 2, do., $13@13.50; No. 1 oat straw, $14@14.50; No. 2, do., $13@13.50.

Bran.—Offerings were moderate and values were well maintained, but trade was quiet. Quotations (car lots, including sacks):

Soft winter bran, in 100-lb. sacks, per ton, $38.50@39; spring bran, in 100-lb. sacks, per ton, $37@37.50.

Wheat.—No. 2 red, $2.24; No. 3 red, $2.21.

Corn.—No. 2 yellow, $2.20@2.25.

Oats.—No. 2 white, new, 66@66½c.

NEW YORK HAY AND GRAIN

New York City, Nov. 5, 1917.

Feed.—The tone was steadier thruout the list yesterday, and mills were not disposed to offer further concessions, especially on Western grades. However, the demand remained extremely quiet and consumers seem to be supplied for the time being at least. The Northwest mill production is light, and no important accumulation of supplies is looked for. The demoralized traffic conditions and the great shortage of cars naturally acts against business. There was no particular change to the position of city feeds. Quoted Western spring in 100-pound sacks, $37; standard middling, $42.50; flour in 100-pound sacks, $51.50 to arrive; red dog to arrive in 100-pound sacks, $62.50; city feed, bulk bran, $36; 100-pound sacks, $62.50; city feed, bulk bran, $36; 100-pound sacks, $37; heavy feed, $43; red dog, $64; flour, $63. Linseed oil meal, $54 per ton.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Nov. 5, 1917.

Butter. — The market for solid-packed creamery was again ½c higher while prints advanced 1c, due to light offerings and a fair demand for choice stock. The under grades, however, were quiet and somewhat irregular in value.

Western, fresh, solid-packed creamery, extra, 44½@45c; higher scoring goods, 46@47c; extra firsts, 44c; firsts, 43½c; seconds, 41½@42½c; sweet creamery, extra, 45½@46c; under grades, 42½@44½c; nearby prints, fancy, 49c; average, extras, 47@48c; firsts, 45@46c; seconds, 43@44c; special fancy brands of prints were jobbing at 52@55c.

Cheese.—There was little trading and the market was barely steady. Offerings were moderate but ample.

NEW YORK MILK MARKET

New York City, Nov. 5, 1917.

The efforts of representatives of National, State and City Food Administrators to prevent another rise in the retail price of milk has disturbed the market. The increase of approximately one-half a cent a quart in the League November rates was the cause. In the hope that the conferences between all the interests involved, which are to be continued will result in the creation of a situation which will permit of maintenance of the present retail rates, the dealers have agreed to absorb the extra half cent for a week without adding it to the consumer's bill. At a prolonged meeting of the directors of the Dairymen's League held on Saturday night to consider the request of the Food Administrator that they cancel the contracts calling for a half-cent increase, the directors decided not to do it. It is not expected, however, that there will be another increase in December. The dealers now have an added expense to meet in the cost of distribution owing to necessity for raising wages to drivers following the recent strike of the Teamsters' Union. The cool weather upstate has had the effect of shortening supply. The Dairymen's League has offered to buy the Borden shipping stations with a view to ultimately controlling the producing and shipping ends of the milk business.

The League rates for Grade B (barn score 55) to the producer in the first district are $3.34 a hundred for 3 percent milk; $3.35, or approximately 7½ cents a quart for 3.6 percent milk; and $3.69 for 4 percent milk. Receipts of milk and cream in 40-quart cans for week ending November 3, were as follows:

Railroad	Milk	Cream
Erie	37,165	1,175
Susquehanna	4,190	44
West Shore	9,490	875
Lackawanna	47,660	1,590
N. Y. Central (long haul) including Rutland	104,390	1,775
Ontario	37,423	1,487
Lehigh Valley	37,308	333
New Haven	3,298	
Pennsylvania	9,271	350
Other sources	5,765	150
Totals	295,960	7,779
Same week last year	342,697	10,147

ELGIN BUTTER MARKET

Elgin, Ill., Nov. 3, 1917.

Elgin butter market suspended. Chicago the basis; extras, 43c.

TOBACCO MARKET

Apparently growers are reaping at least part of the benefit which has accrued to them by judiciously pricing and holding their product of the present year. After many criticisms and all sorts of homely declarations on the part of buyers the latter are known to be in the field making extensive purchases at prices ranging from $24 to 26 per cwt. for offerings of the wrapper class. So far as known all purchases were by factory buyers, prices being such as to not be attractive to speculators. However, there are many growers who would not accept offers on the above basis, some of them refusing to price at all and others asking as high as $30, and it would be no surprise if they get all they ask. In general, the sales which have been made while apparently high are not to be commended, all things considered. It is now evident that reports to the effect that prices would be lower after Christmas were fictitious and untrue as those who were instrumental are now most active in buying. Representative sales were as follows: A crop of 47 acres sold at $25 and 10 per cwt; 150 acres at $22 to 24 for wrappers; a large crop at $24, 15, 10 and 6; many crops at from $25, 15, 10 and 6 to 25, 15 and 6. In one place many sales were made at $22 per cwt. straight. Tobacco is curing very slowly on account of the prevailing cold, cloudy weather and a heavy freeze would do considerable damage to sappy stems and top leaves. Growers are busy gathering corn and attending the many duties incident to the season.—H. F. Tweed, Nov. 5, 1917.

NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

SYNOPSIS OF PREVIOUS CHAPTERS

Henry de Spain is the new General Manager of the stage line running between the rich mines of the Spanish Sinks to Sleepy Cat. He finds most of the trouble annoying the stage line originates at a small crossing known as Calabasas, the center of which is Calabasas Inn. Here the followers of the Morgans, of Morgans' Gap, gather for such mischief as they find to do. It was here that one of the Morgan men, named Sassoon, assaulted one of the stage guards, for which he is wanted by the sheriff. The sheriff failing to make the arrest, de Spain rode into Morgan's Gap and brought Sassoon out alone. This open defiance of the Morgans was accepted by the natives as a forerunner of a prolonged fight between the new General Manager and the mountain outlaws. Sassoon soon escaped from jail, necessitating another hunt. De Spain goes to Tenison's, a famous gambling house of the town, and at the door of the main room meets Nan Mrgan

CHAPTER VIII

The Gambling Room

De Spain and Nan Morgan confronted each other at the door blankly. To Nan's confusion was added her embarrassment at her personal appearance. Her hat was wet, and the limp shoulders of her khaki jacket and the front of her silk blouse showed the wilting effect of the rain. In one hand she clutched wet riding-gloves. Her cheeks, either from the cold rain or mental stress, fairly burned, and her eyes, fired with some resolve, changed to an expression almost of dismay.

This was hardly for more than an instant. Then her lips tightened, her eyes dropped, and she took a step to one side to avoid de Spain and enter the gambling-room. He stepped in front of her. She looked up, furious. "What do you mean?" she exclaimed with indignation. "Let me pass."

The sound of her voice restored his self-possession. He made no move to get out of her way, indeed he rather pointedly continued to obstruct her. "You've made a mistake, I think," he said evenly.

"I have not," she replied with resentment. "Let me pass."

"I think you have. You don't know where you are going," he persisted, his eyes bent uncompromisingly on hers.

She showed increasing irritation at his attempt to exculpate her. "I know perfectly well where I am going," she retorted with heat.

"Then you know," he returned steadily, "that you've no business to enter such a place."

His opposition seemed only to anger her. "I know where I have business. I need no admonitions from you as to what places I enter. You are impertinent, insulting. Let me pass!"

His stubborn opposition showed no signs of weakening before her resolve. "One question," he said, ignoring her angry words. "Have you ever been in these rooms before?"

He thought she quailed the least bit before his searching look. She even hesitated as to what to say. But if her eyes fell momentarily it was only to collect herself. "Yes," she answered, looking up unflinchingly.

Her resolute eyes supported her defiant word and openly challenged his interference, but he met her once more quietly. "I am sorry to hear it," he rejoined. "But that won't make any difference. You can't go in tonight."

"I will go in," she cried.

"No," he returned slowly, "you are not going in—not, at least, while I am here."

They stood immovable. He tried to reason her out of her determination. She resented every word he offered. "You are most insolent," she exclaimed. "You are interfering in something that is no concern of yours. You have no right to act in this outrageous way. If you don't stand aside I'll call for help."

"Nan!" De Spain spoke her name suddenly and threateningly. His words fell fast, and he checked her for an instant with his vehemence. "We met in the Gap a week ago. I said I was telling you the exact truth. Did I do it?"

"I don't care what you said or what you did——"

"Answer me," he said sharply, "did I tell you the truth?"

"I don't know or care——"

"Yes, you do know——"

"—what you say or do——"

"I told you the truth then, I am telling it now. I will never see you enter a gambling-room as long as I can prevent it. Call for help if you like."

She looked at him with amazement. She seemed about to speak—to make another protest. Instead, she turned suddenly away, hesitated again, put both her hands to her face, burst into tears, and hurried toward the stairs. De Spain followed her. "Let me take you to where you are going?"

Nan turned on him, her eyes blazing thru her tears, with a single, scornful, furious word: "No!" She quickened her step from him in such confusion that she ran into two men just reaching the top of the stairs. They separated with alacrity, and gave her passage. One of the men was Lefever, who, despite his size, was extremely nimble in getting out of her urgent way, and quick in lifting his hat. She fairly raced down the flight of steps, leaving Lefever looking after her in astonishment. He turned to de Spain: "Now, who the deuce was that?"

De Spain ignored his question by asking another: "Did you find him?" Lefever shook his head. "Not a trace; I covered Main Street. I guess Bob was right. Nobody home here, Henry?"

"Nobody we want."

"Nothing going on?"

"Not a thing. If you will wait here for Bob, I'll run over to the office and answer those telegrams."

De Spain started for the stairs. "Henry," called Lefever, as his companion trotted hastily down, "if you catch up to her, kindly apologize for a fat man."

But de Spain was balked of an opportunity to follow Nan. In the street he ran into Scott. "Did you get the story?" demanded de Spain.

"Part of it."

"Was it Sassoon?"

Scott shook his head. "I wish it was."

"What do you mean?"

"Deaf Sandusky."

"Calabasas?"

Scott nodded. "You must have moved a couple of inches at the right nick, Henry. That man Sandusky," Bob smiled a sickly smile, "doesn't miss very often. He was bothered a little by his friends being all around you."

The two regarded each other for a moment in silence. "Why," asked de Spain, boiling a little, "should that damned, hulking brute try to blow my head off just now?"

"Only for the good of the order, Henry," grinned the scout.

"Nice job Jeff has picked out for me," muttered de Spain grimly, "standing up in these Sleepy Cat barrooms to be shot at." He drew in a good breath and threw up the wet brim of his hat. "Well, such is life in the high country, I suppose. Some fine day Mr. Sandusky will manage to get me—or I'll manage to get him—that all depends on how the happening happens. Anyway, Bob, its bad luck to miss a man. We'll hang that much of a handicap on his beef-eating crop. Is he the fellow John calls the butcher?" demanded de Spain.

"That's what everybody calls him, I guess."

The two rejoined Lefever at the head of the stairs and the three discussed the news. Even Lefever seemed more serious when he heard the report. Scott, when asked where Sandusky now was, nodded toward the big room in front of them.

Lefever looked toward the gambling-tables. "We'll go in and look at him." He turned to Scott to invite his comment on the proposal. "Think twice, John," suggested the Indian. "If there's any trouble in a crowd like that, somebody that has no interest in de Spain or Sandusky is pretty sure to get hurt."

"I don't mean to start anything," explained Lefever. "I only want de Spain to look at him."

But sometimes things start themselves. Lefever found Sandusky at a faro-table. At his side sat his partner, Logan. Three other players, together with the onlookers, and the dealers—whose tumbled hair fell partly over the visor that protected his eyes from the glare of the overhead light—made up the group. The table stood next to that of Tenison, who, white-faced and impassive under the heat and light, still held to his chair.

Lefever took a position at one end of the table, where he faced Sandusky, and de Spain, just behind his shoulder, had a chance to look the two Calabasas men over closely. Sandusky again impressed him as a powerful man, who, beyond an ample stomach, carried his weight without showing it. What de Spain most noted, as it lay on the table, was the size and extreme length of the outlaw's hand. He had heard of Sandusky's hand. From the tips of the big fingers to the base of the palm, this right hand, spread over his chips, would cover half again the length of the hand of the average man.

De Spain credited readily the extraordinary stories he had heard of Sandusky's dexterity with a revolver or a rifle. That he should so lately have missed a shot at so close range was partly explained now that de Spain perceived that Sandusky's small, hard, brown eyes were somewhat unnaturally bright, and that his brows knit every little while in his effort to collect himself. But his stimulation only partly explained the failure; it was notoriously hard to upset the powerful outlaw with alcohol. De Spain noted the coarse, straw-colored hair—plastered recently over the forehead by a barber—the heavy, sandy mustache, freshly waxed by the same hand, the bellicose nostrils of the Roman nose, the broad, split chin, and mean, deep lines of a most unpromising face. Sandusky's brown shirt sprawled open at the collar, and de Spain remembered again the flashy waistcoat, fastened at the last buttonhole by a cut-glass button.

At Sandusky's side sat his crony in all important undertakings—a much smaller, sparer man, with aggressive shoulders and restless eyes. Logan was the lookout of the pair, and his roving glance lighted on de Spain before the latter had inspected him more than a moment. He lost no time in beginning on de Spain with an insolent question as to what he was looking at. De Spain, his eyes bent steadily on him, answered with a tone neither of apology nor pronounced offense: "I am looking at you."

Lefever hitched at his trousers cheerily and, stepping away from de Spain, took a position just behind the dealer. "What are you looking at me for?" demanded Logan insolently.

De Spain raised his voice to match exactly the tone of the inquiry. "So I'll know you next time."

Logan pushed back his chair. As he turned his legs from under the table to rise, a hand rested on his shoulder. He looked up and saw the brown face and feeble smile of Scott. Logan with his nearest foot kicked Sandusky. The big fellow looked up and around. Either by chance or in following the sound of the last voice, his glance fell on de Spain. He scrutinized for a suspicious instant the burning eyes and the red mark low on the cheek. While he did so—comprehension dawning on him — his enormous hands, forsaking the pile of chips with which both had been for a moment busy, flattened out, palms down, on the faro-table. Logan tried to rise. Scott's hand rested heavily on him. "What's the row?" demanded Sandusky in the queer tone of a deaf man. Logan pointed at de Spain. "That Medicine Bend duck wants a fight."

"With a man, Logan; not with a cub," retorted de Spain, matching insult with insult.

"Maybe I can do something for you," interposed Sandusky. His eyes ran like a flash around the table. He saw how Lefever had pre-empted the best place in the room. He looked up and back at the man standing now at his shoulder, and almost between Logan and himself. It was the Indian, Scott. Sandusky felt, as his faculties cleared and arranged themselves every instant, that there was no hurry whatever about lifting his hand; but he could not be faced down without a show of resistance, and he concluded that for this occasion his tongue was the best weapon. "If I can," he added stiffly, "I'm at your service."

De Spain made no answer beyond keeping his eyes well on Sandusky's eyes. Tenison, overhearing the last words, awoke to the situation and rose from his case. He made his way thru the crowd around the disputants and brusquely directed the dealers to close the game. While Sandusky was cashing in, Tenison took Logan aside. What Tenison said was not audible, but it sufficed to quiet the little fellow. The only thing further to be settled was as to who should leave the room last, since neither party was willing to go first. Tenison, after a formal conference with Lefever and Logan, offered to take Sandusky and Logan by a private stairway to the billiard-room, while Lefever took de Spain and Scott out by way of the main entrance. This was arranged, and when the railroad men reached the street rain had ceased falling.

Scott warned de Spain to keep within doors, and de Spain promised to do so. But when they left him he started out at once to see whether he could not, by some happy chance, encounter Nan.

CHAPTER IX

A Cup of Coffee

He was willing, after a long and fruitless search to confess to himself that he would rather see Nan Morgan for one minute than all women else in the world for a lifetime. The other incidents of the evening would have given any ordinary man enough food for reflection—indeed they did force de Spain to realize that his life would hang by a slender thread while he remained at Sleepy Cat and continued to brave the rulers of the Sinks.

But this danger, which after all was a portion of his responsibility in freeing his stages from the depredations of the Calabasas gang, failed to make on him the moving impression of one moment of Nan Morgan's eyes. She could upset him completely, he was forced to admit, by a glance, a word, a gesture—a mere turn of her head. There was in the whole world nothing he wanted to do so much as in some way to please her—yet it seemed his ill luck to get continually deeper into her bad graces. It had so stunned and angered him to meet her intent on entering a gambling-hall that he was tormented the whole night. Association with outlaws—what might it not do for even such a girl? While her people were not all equally reprobate, some of them at least were not far better than the criminals of Calabasas. To conceive of her gambling publicly in Sleepy Cat was too much. He had even taken a horse, after cautiously but persistently haunting the streets for an hour, and ridden across the river away out on the mountain trail, hoping to catch a sight of her.

On his way back to town from this wild-goose chase, he heard the sound of hoofs He was nearing the river and he turned his horse into the clump of trees beside the bridge. The night was very dark, but he was close to the trail and had made up his mind to speak to Nan if it were she. In another moment his ear told him there were two horses approaching. He waited for the couple to cross the bridge, and they passed him so close he could almost have touched the nearer rider. Then he realized, as the horse passing beside him shied, that it was Sandusky and Logan riding silently by.

For a week de Spain spent most of his time in Sleepy Cat trying to catch sight of Nan. His reflection on the untoward incidents that had set them at variance left him rebellious. He meditated more about putting himself right with her than about all his remaining concerns together. A strange fire had seized him—that fire of imagination which scorns fair words and fine reasoning, but which, smothered, burns in secret until, fanned by the wind of accident, it bursts out the more fiercely because of the depth in which it has smouldered.

Every day that de Spain rode across the open country, his eyes turned to the far range and to Music Mountain. The rounded, distant, immutable peak—majestic as the sun, cold as the stars, shrouding in its unknown fastnesses the mysteries of the ages and the secrets of time—meant to him now only this mountain girl whom its solitude sheltered and to whom his thoughts continually came back.

Within two weeks he became desperate. He rode the Gap trail from Sleepy Cat again and again for miles and miles in the effort to encounter her. He came to know every ridge and hollow on it, every patch and stone between the lava beds and the Rat River. And in spite of the counsels of his associates, who warned him to beware of traps, he spent, under one pretext or another, much of the time either on the stages to and from Calabasas or in the saddle toward Morgan's Gap, looking for Nan.

Killing time in this way, after a fruitless ride, his persistence was one day most unexpectedly rewarded at the Calabasas barns. He had ridden thru a hot sun from Sleepy Cat, passing the up stage half-way to Calabasas, where he had an appointment to meet Scott and Lefever at five o'clock. When de Spain reached the Calabasas barn, McAlpin, the barn boss, was standing in the doorway. "You'd never be comin' from Sleepy Cat in the saddle!" exclaimed McAlpin incredulously. De Spain nodded affirmatively as he dismounted. "Hot ride, sir; a hot day," commented McAlpin, shaking his head dubiously as he called a man to take the horse, unstrapped de Spain's coat from the saddle, and followed the manager into the office.

The heat was oppressive, and de Spain unbuckled his cartridge-belt, slipped his revolver from the holster, mechanically stuck it inside his trousers waistband, hung the heavy belt up under his coat, and, sitting down, called for the stage report and asked whether the new blacksmith had sobered up. When McAlpin had given him all minor information called for, de Spain walked with him out into the barn to inspect the horses. Passing the very last of the box-stalls, the manager saw in it a pony. He stopped. No second glance was needed to tell him it was a good horse; then he realized that this wiry, sleek-legged roan, contentedly munching at the moment some company hay, was Nan Morgan's.

McAlpin, talking volubly, essayed to move on, but de Spain, stubbornly pausing, only continued to look at the handsome saddle-horse. McAlpin saw he was in for it, and resigned himself to an inquisition. When de Spain asked whose horse it was, McAlpin was ready. "That little pony is Nan Morgan's, sir."

De Spain made no comment. "Good-looking pony, sir," ventured McAlpin half-heartedly.

"What's it doing here?" demanded de Spain coldly.

Before answering, the barn boss eyed de Spain very carefully to see how the wind was setting, for the pony's presence confessed an infraction of a very particular rule. "You see," he began, cocking at his strict boss from below his visorless cap a questioning Scotch eye, "I like to keep on good terms with that gang. Some of them can be very ugly. Its better to be friends with them when you can — by stretching the barn rules a little once in a while—than to have enemies of 'em all the time —don't you think so, sir?"

"What's her horse doing here?" asked de Spain, without commenting on the long story, but also without showing, as far as the barnman could detect, any growing resentment at the infraction of his regulations.

McAlpin made even the most inconsequential approaches to a statement with a keen and questioning glance. "The girl went up to the Cat on the early stage, sir. She's coming back this afternoon."

"What is she riding away over here to Calabasas for to take the stage, instead of riding straight into Sleepy Cat?"

Once more McAlpin eyed him carefully. "The girl's been sick."

"Sick?"

"She ain't really fit to ride a step," confided the Scotch boss with growing confidence. "But she's been going up two or three times now to get some medicine from Doc Torpy—that's the way of it. There's a nice girl, sir—in a bunch o' ruffians, I know—tho old Duke, she lives with, he ain't a half-bad man except for too many cards; I used to work for him—but I call her a nice girl. Do you happen to know her?"

De Spain had long been on guard. "I've spoken with her in a business way once or twice, Jim. I can't really say I know her."

"Nice girl. But that's a tough bunch in that Gap, sure as you're alive; yes, sir."

De Spain was well aware the canny boss ought to know. McAlpin had lived at one time in the Gap, and was himself reputed to have been a hardy and enduring rider on a night round-up.

"Anything sick, Jim?" asked de Spain, walking on down the barn and looking at the horses. It was only the second time since he had given him the job that de Spain had called the barn boss "Jim," and McAlpin answered with the rising assurance of one who realizes he is "in" right. "Not so much as a sore hoof in either alley, Mr. de Spain. I try to take care of them, sir."

"What are we paying you, Jim?"

"Twenty-seven a week, sir; pretty heavy work at that."

"We'll try to make that thirty-two after this week."

McAlpin touched his cap. "Thank you kindly, sir, I'm sure. It costs like hell to live out here, Mr. de Spain."

"Lefever says you live off him at poker."

"Ha, ha! Ha, ha, sir! John will have his joke. He's always after me to play poker with him—I don't like to do it. I've got a family to support—he ain't. But by and far, I don't think John and me is ten dollars apart, year in and year out. Look at that bay, sir! A month ago Elpaso said that horse was all in—look at him now. I manage to keep things up."

"What did you say," asked de Spain indifferently, "had been the matter with Nan Morgan?" Her name seemed a whole mouthful to speak, so fearful was he of betraying interest.

"Why, I really didn't say, sir. And I don't know. But from what she says, and the way she coughs, I'm thinking it was a touch of this p-newmonia that's going around so much lately, sir."

His listener recalled swiftly the days that had passed since the night he had seen her wet thru in the cold rain at Sleepy Cat. He feared Jim's diagnosis might be right. And he had already made all arrangements to meet the occasion now presenting itself. Circumstances seemed at last to favor him, and he looked at his watch. The down stage bringing Nan back would be due in less than an hour.

"Jim," he said thoughtfully, "you are doing the right thing in showing some good-will toward the Morgans."

"Now, I'm glad you think that, sir."

"You know I unintentionally rubbed their backs the wrong way in dragging Sassoon out."

"They're jealous of their power, I know—very jealous."

"This seems the chance to show that I have no real animosity myself toward the outfit."

Since de Spain was not looking at him, McAlpin cocked two keen and curious eyes on the sphinx-like birthmark of the very amiable speaker's face. However, the astute boss, if he wondered, made no comment. "When the stage comes in," continued de Spain quietly, "have the two grays—Lady and Ben—hitched to my light Studebaker I'll drive her over to the Gap myself."

"The very thing," exclaimed McAlpin, staring and struggling with his breath.

"In some way I've happened, both times I talked with her, to get in wrong—understand?" McAlpin, with clearing wits, nodded more than once.

"No fault of mine; it just happened so. And she may not at first take kindly to the idea of going with me."

"I see."

"But she ought to do it. She will be tired—its a long, dusty ride for a well woman, let alone one that has been ill."

"So it is, so it is!"

De Spain looked now shamelessly at his ready-witted aid. "See that her pony is lame when she gets here —can't be ridden. But you'll take good care of him and send him home in a few days—get it?"

(To be continued.)

Hoover's Goin' to Get You

The darned old Hoover pledge has come to our house to stay;
To frown our breakfast bacon down, and take our steak away;
It cans our morning waffles, and our sausage, too, it seems,
And dilates on the succulence of corn, and spuds, and beans.
So skimp the sugar in your cake and leave the butter out,
Or Hoover's goin' to get you if you
Don't
Watch
Out!

Oh, gone now are the good old days of hot cakes thickly spread;
And meatless, wheatless, hopeless days are reigning in their stead;
And gone the days of fat rib roasts, and two-inch T-bone steaks,
And dough nuts plump and golden brown, the kind that mother
makes.
And when it comes to pie and cake, just learn to cut it out,
Or Hoover's goin' to get you if you
Don't
Watch
Out!

So spread your buckwheats sparingly, and peel your taters thin;
And tighten up your belt a notch and don't forget to grin.
And if, sometimes, your whole soul yearns for short cake high
and wide,
And biscuits drenched with honey, and chicken, butter fried,
Remember then that Kaiser Bill is short on sauerkraut,
And Hoover's goin' to get him if we'll
All
Help
Out!

—By Mable I. Clapp in Ladies Home Journal.

TRAINING A WIFE

Countless reams of good white paper have been spoiled in discussing this matter of marital discord and in giving advice to young married couples who didn't want it and didn't know what to do with it after they got it. It seems to be about time for the writing of something final on the subject; something that will settle the question once for all.

In the first place, the husband is to blame. He has been told this so often that he won't mind being told again. But he is unquestionably to blame.

It is clearly all his fault because he didn't commence in time to train his wife. If every new husband would begin a campaign of education on his wedding day, husband and wife would soon be of one mind and all unpleasantness would be eliminated.

This method has never been tried by me, wherefore I have great faith in its efficacy. In fact, so far as I know, it has never been tried by any husband. They have all been too busy being trained.

All manner of remedies for domestic unhappiness have been tried — everything from the ancient and honorable rolling pin to arsenic and a board of arbitration, consisting of all the "in-laws" — but all have proved failures. The war still goes on!

Let me first outline some of the rules of this revolutionary method of mine, and then we'll get down to the concrete and see how it would work out in practice.

Rule No. 1: Be firm. Don't be obstinate; just firm. The distinction is hard to grasp. In reality, I doubt if any one has ever been able to exactly demonstrate the difference.

Rule 2: Use tact and patience and diplomacy and self-control and wisdom and subtelty and common sense and artfulness. Then more tact, and anything else you can think of.

Rule No. 3: Don't forget your own rights; but don't be selfish.

Rule No. 4: Don't issue commands. Commands lead to mutiny.

Rule No. 5: Don't be too meek. Meekness provokes red murder in the female breast.

Rule No. 6: Don't argue. You can't beat the Chinese at using chopsticks.

Rule No. 7: Don't swear. A woman can express more profanity in one look than a sea captain could voice after long training. Besides, swearing is sure to bring tears; and then you are lost.

Rule No. 8: Don't rush off to the club meeting. You might as well surrender as to retreat.

Rule No. 9: Don't sit and say nothing; you'll be accused of pouting. And don't pout; if you do, you deserve all you'll get.

You must learn to lead your wife step by step, and you must do it in such a way that she will never suspect that she isn't leading. By this time you are saying: "If I could do all that, I could qualify for the Presidency."

True enough. But remember, its a lot easier to be president than right as a husband. We have had several good presidents; but where, from the mother-in-law's point of view, is there a thoroly good husband?

Someone's got to be boss, or there will be a state of anarchy; and even then the mob will require a leader. If you have a baby, that lets you out. He or she will be the boss. Otherwise, it must be either you or your wife. If you follow these rules it will be you.

Now, to get down to particulars: Suppose your wife wants a new hat. Your preference is for a small, simple hat while she favors a large, elaborate one. You know, and I know, and she knows, that five dollars is enough for any woman to pay for a hat. The trouble is that Mrs. Spendit always pays thirty-five to fifty dollars for a hat, and "you ought to want your wife to look as well as that old cat."

Now is the time to be firm. Gently but firmly insist that your wife go, just as fast as the speed laws allow, and get a hat that costs fifty-five dollars and is adorned with all the flora and fauna of the Tropics.

Now you see you have had your own way, but your wife doesn't suspect it; and all is serene as a United States senator making a speech on the fourth dimension while the country is clamoring for instant action on important legislation.

Or, suppose the debate concerns the amount you spend on cigars. Your wife says five-cent cigars or a pipe. You say ten-cent cigars, and nothing but ten-cent cigars. Be firm, but diplomatic. Come down to five-cent cigars first. Then you can gracefully give up cigars altogether and take to a pipe; and, after a few weeks, you can congratulate yourself that, unlike poor Jones, you still have a few privileges left.

Or, suppose you have forgotten all about that reception at the parsonage and have made an engagement to settle the checker championship with your old enemy Bill Smith. Your wife takes her stand on the reception, you on the checker championship. Now don't be obstinate. This is clearly a case for compromise. Tell your wife that if she will agree to go to the reception—you'll go with her.

You can see now how simple the whole method is, and it is unnecessary to give more examples of how it should be applied. You'll have a chance to apply it every day of your married life; and, if you follow the rules, your home will be happy.

Then some day you'll doubtless call an immense convention of married men who, if their wives will let them, will club together and erect a costly monument to the great and good man who invented the system

The system can't fail to work—unless something happens. The only drawback is that it would do away with all family jars; and, if your wife is like most women, she'll make life miserable for you just because everything is so serene.—Walter G Doty.

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HERD SIRE,—Korndyke Hengerveld Ormsby Pietje 115462 whose six nearest dams average in official test 30.53 lbs. butter in 7 days. Sixty dams that average over 25 lbs. 28 of which were world records when made; inofficial tests his first seven dams average 80 lbs. of 4.3 milk per day Herd Tuberculin tested; sale at owner's farm; catalog on request
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Farm Products Prices and Prospects

GETTING MORE LIVE STOCK

In a telegram to Mr. Dorsey at Fort Worth, President Barnes of the Grain Corporation made the remark, "Keep in mind that any statement made as to policies may be forced by war necessity to change over night." Whether necessity and not something else has caused Mr. Hoover to make statements that seem to involve a change of view over night, it is unfortunate that such seeming necessity has so frequently arisen that farmers at least have been all unsettled by them. Take the live stock situation. It stands to reason that the past three years have most disastrously affected the condition and number of live stock in the United Kingdom and the continent of Europe. The Food Administration itself reports that the total decrease in the number of meat animals (cattle, hogs and sheep) in the countries of the western Allies has been cut down over 33 millions and in all countries, including enemies, over 115 millions, of which 54.5 millions are hogs, 28.08 millions cattle and 32.4 millions are sheep; and therefore the farmer has every reason to anticipate high prices for some years to come. Yet on Oct. 9 the Chicago Journal said:

Dana Durand, a respresentative of Food Administrator Herbert C. Hoover, is in Chicago endeavoring to figure out a way to bring about $10 hogs again. To accomplish this without resorting to maximum price figuring, or interfering with the operation of the law of supply and demand, a scientific scheme of market control is to be worked out. Instead of being under the direction of the packers, it is to be directed by the Government. The price of corn is another equally important move. Ten dollar hogs and dollar corn is the ratio which is accepted as the one which ought to prevail.

Mr. Hoover has since repudiated this entire idea, and wisely. Perhaps Mr. Durand, or the Journal, were too previous; but the suggestion of $10 hogs went out into the country and it did no good to the cause of more hogs and cattle and sheep; because, true or untrue, it suggested a possible price making for live stock, which it had been previously declared was no part of the Food Administration program.

The need for more meat animals is most pressing, but your average farmer is fearful of going into the game now on account of high feed prices; and he is not going into stock so long as any uncertainty exists as to the future. But more farmers might take the chance if they felt assured that the Administration's policy of keeping down prices for the benefit of the urban workers would not hit the stockmen. Even more surely than in the case of flour, perhaps, is the Food Administration face to face with the problem of live stock. If the Administration really wants to secure quickly a large stock of meat animals Mr. Hoover must expect to let the price of stock in the open market go to the limit, whatever it be, that will tempt every farmer to grow some stock. The price will be high for a time, because live stock are scarce; but unrestricted prices will react upon the stock that are ready for market. The Food Administration may vi et armis keep down the price of meat in the shops as long as there are meat animals to slaughter, but by so doing when that supply shall be exhausted he will have made it certain that there will be no meat to be had at any price. Scarcity cannot be cured by low prices.—Price Current.

COLD STORAGE APPLE HOLDINGS OCTOBER 15, 1917

Reports from 467 storages show that their rooms contain 1,160,977 barrels and 1,178,215 boxes of apples. The 445 storages that reported for October 15 of this year and last show a present stock of 1,090,868 barrels and 1,095,151 boxes, as compared with 1,207,472 barrels and 1,081,216 boxes last year, a decrease of the equivalent of 111,959 barrels or 7.1 percent. For the purposes of this comparison, it is considered that three boxes are equivalent to one barrel. The reports of 409 storages show that 35.5 percent of the December 1, 1916, holdings of apples have already been placed in cold storage. Last year on October 15, the reports of 292 storages showed that 38.8 percent of the December 1, 1916, holdings had been placed in storage.

NEW YORK HAY GRADES

Following is the grading system employed on the New York Market by the New York Hay Exchange Association:

Prime Timothy Hay. — Shall be pure timothy of medium growth, bright color, sweet, sound and well baled.

No. 1 Hay.—Shall be timothy, not more than one-eighth (1/8), mixed with other tame grasses, exclusive of clover, bright color, sweet, sound and well baled.

No. 2 Hay.—Shall include all timothy not good enough for No. 1, fair in color, not more than one-eighth (1/8) other tame grasses, sound and well baled.

No. 3 Hay.—Shall include all hay not good enough for other grades, not over one-third (1/3) clover; free from wild or bog, sound and well baled.

Shipping Hay.—Shall consist of hay not good enough for No. 3, sound and well baled.

No Grade Hay.—Shall include all hay badly cured, stained, threshed, or in any way unsound.

No. 1 Packing Hay.—Shall consist of all fine grasses, of good color, free from flag or thistle, sound and well baled.

Fancy Light Clover Mixed Hay.—Shall be bright, green sweet clover and timothy of medium growth, containing not over one-quarter (1/4) clover, sound and well baled.

No. 1 Clover Mixed Hay.—Shall be clover and timothy, medium growth, with at least one-half (1/2) clover, bright color, sound and well baled.

No. 2 Clover Mixed Hay.—Shall be clover and timothy, with at least one-half (1/2) clover, fair color, sound and well baled.

No. 1 Clover Hay.—Shall be bright, medium growth, sweet, sound and well baled.

No. 2 Clover Hay.—Shall be clover of fair color, sound and well baled.

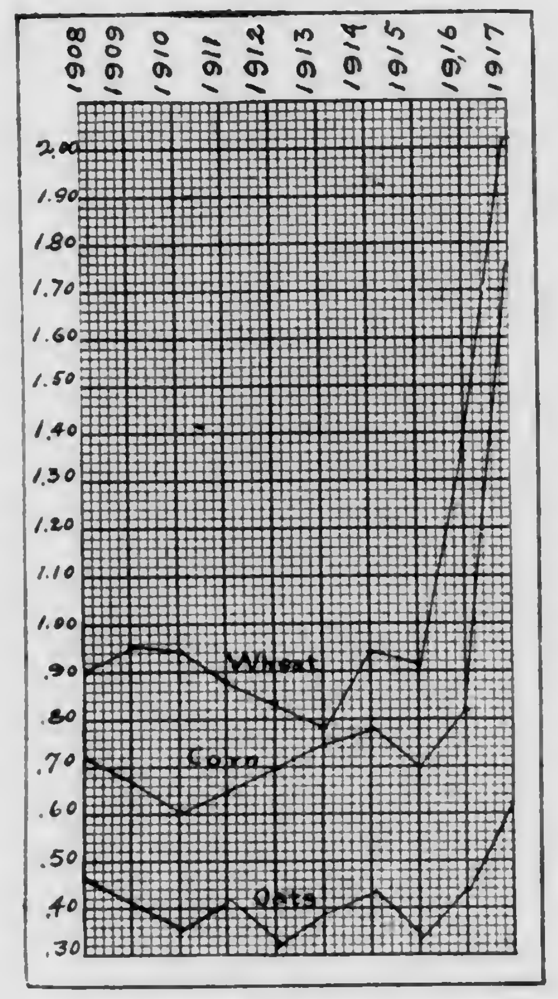
No. 1 Rye Straw.—Shall be bright, clean, long rye straw, in bundles pressed in large or upright bales, sound and well baled.

No. 2 Rye Straw.—Shall be clean, long rye straw, of fair color, in bundles, pressed in large or upright bales, sound and well baled.

No. 1 Tangled Rye Straw.—Shall be bright, clean tangled rye straw, of fair length, sound and well baled.

No. 2 Oat Straw.—Shall be clean, bright oat straw, of fair length, practically free from chaff and thistle, sound and well baled.

No. 1 Wheat Straw. — Shall be bright, clean wheat straw, of fair length, sound and well baled.



Price Range of Wheat, Corn and Oats During Past 10 Years.

MEAT ANIMALS GAIN IN PRICE AT THE FARM

The prices received by producers for cattle, sheep, and hogs, September 15, and chickens, October 1, have gained 52.7 percent in the general average from 1916 to 1917, according to the latest report of the U. S. Department of Agriculture. The advance for beef cattle per 100 pounds, live weight, was from $6.55 to $8.40, or 28 percent; for veal calves per 100 pounds, from $8.77 to $11.08, or 26 percent; sheep per 100 pounds, from $6.25 to $10.05, or 61 percent; lambs per 100 pounds, from $8.22 to $13.06, or 59 percent; hogs per 100 pounds, from $9.22 to $15.69, or 70 percent, and chickens, from 14.3 to 18.1 cents per pound, or 27 percent. Sheep, lambs, and hogs have far exceeded beef cattle, veal calves, and chickens in the upward price movement at the point of production.

The highest price at the farm per 100 pounds, live weight, reached during the year under review was $8.70 for beef cattle in May, $11.08 for veal calves in last September, $10.15 for sheep in May, $13.06 for lambs in last September, $15.69 for hogs in last September, and 18.1 cents per pound for chickens October 1 of this year. The latest farm price reported is the highest one of the year for veal calves, lambs, hogs, and chickens; the May price was the highest for beef cattle and sheep.

MERCHANTS OPPOSE PRICE FIXING

The committee on commercial law of the Merchants' Association, of which Edward D. Page is chairman, is considering the question of Federal fixing of prices. The whole subject has been referred back to the committee by the board of directors for further investigation and report. The committee yesterday got in touch with officials at Washington to obtain what data is available bearing upon the results of price fixing here and particularly abroad. Until the committee gets this data and studies it carefully it will not act. It is at present in somewhat of a quandary because a recent meeting of the board of directors brought out the fact that there is a wide divergence of opinion as to the advisability of price fixing. In fact, many merchants have expressed strong opposition to any such scheme, believing firmly that they should be permitted to obtain, during the war, whatever prices they can obtain according to demand and supply.

Some of these opponents to price fixing point out or claim that price fixing of commodities abroad has been a failure and is gradually being abandoned. They also say that if the price of one article is to be fixed the price of other things must be fixed, and the practice will have to be made general. They point to what has happened in the case of coal where the original price fixed has had to be raised because of the increase granted to workmen who struck.

For these reasons the Merchants' Association has decided not to vote in the referendum of the Chamber of Commerce of the United States upon the seven proposals for the extension of the power of the Government to fix the prices of commodities.

While refraining from participation in the referendum, the association will make a careful study thru its committee on commercial law upon the effect of price fixing.

The committee on commercial law gave a hearing on the subject of price fixing. Between fifty and sixty members attended the hearing and those who spoke were unanimous in opposing the price-fixing policy as not necessary to the management of the war and as an unwise interference with the operation of the law of supply and demand.—From Journal of Commerce.

The wheat crop of Italy is said to be about 147,000 bushels against 176,000 a year ago.

—

The majority of the labor that is now being depended upon on the farms is furnished by men above fifty years of age.

COUNTY NOTES

Adams Co., O., (S.C.) Oct. 19.—Much rain fell last night. Today very cloudy and cold. Weather has been splendid for wheat seeding. Some wheat yet to sow. Corn cutting proceeded very slowly because of scarcity of help. Corn a fair crop. Much of the corn is very sappy. Wheat not moving to market very rapidly as $2 a bushel is too low a price in comparison with what the farmer has to buy. Farm work is weeks or more later than usual.—W. E. Roberts.

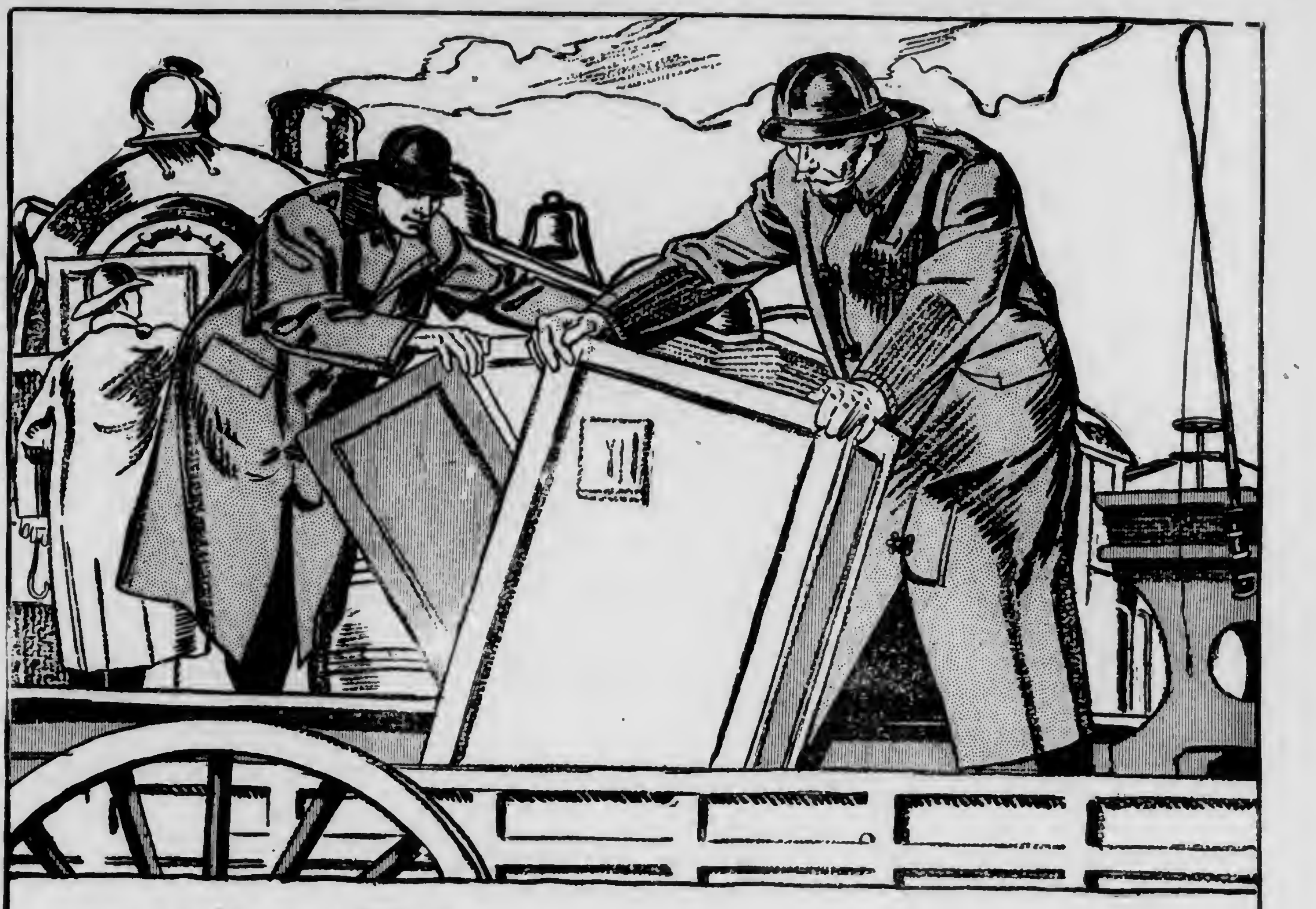
Broome Co., N. Y., (S.E.) October 13.—First killing frost on night of October 9. Water froze ¼ inch thick on still water. Week has been very cold and discouraging to the farmers who are trying to dig potatoes which are rotting badly. Field corn is turning out well. Cabbage is quoted at one cent per pound; potatoes are going higher. Some milk retailing on the curb at 8 cents. Local milk association met last week and voted to have each farmer hold 4 quarts out of every 0 to reduce the surplus reported by the dealers. One dealers says that he had to separate 2,480 quarts surplus in a single day. With live pork bringing 25 cents the farmers feel that they will not be losing anything by making butter and feeding buttermilk and skimmilk to hogs. The Broome County Farm Loan Association is in the process of organization. Much local road work being done to be completed before winter sets in.—C. H.

Mifflin Co., Pa., (C.) October 15.—Live stock slightly lower than a month ago, except hogs. Weaning pigs selling at $8 to $10 a pair. Fall seeding is looking well where sowed early; still a few seedings in corn fields. Wheat, $2; rye, $1.70; corn, new, $1.60; oats, 55c; butter, 40c; eggs, 42c. Weather cool of late with heavy frosts. Some rains. Water getting low. Some corn to cut yet, some husking done, about three-fourths crop. Apple picking is in order; right fair crop. Some thrashing to do yet. Farm help very scarce. Apples, $1; Potatoes, $1. Potatoes a good crop.—J. H. Byler.

Lebanon Co., Pa., (S.E.) October 18.—Weather has been warm and pleasant the past week. The tobacco is all cut and is curing nicely. About one-third of the crop had been damaged by the frost. Not all the potatoes have been dug and those dug yielded slightly below average. Farmers are chopping off corn but can hardly make headway on account of the scarcity of labor. Some wheat is making a nice stand. No new sales of tobacco were made, farmers holding for 30 cents. Corn is $2.20; oats, 75c; potatoes, $1.50 bu; bran, $1.90 cwt; eggs, 44c doz. Our annual corn shows, one to each township, will be held in November. — Leonard F. Strickler.

Broome Co., N. Y., (S.E.) Oct. 30.—Continued heavy rains are causing much damage as many potatoes still remain in the ground. The river is up and the flats are flooded. Local curb markets are falling off. Farmers have shown a tendency to charge as much as the regular dealers, making no inducement for consumers to attend their markets. Potatoes sold at 50 cents per peck on the curb market. The stores were paying $1.50 to $1.60 per bushel. Cabbage has doubled in price, being now 2 cents per pound. Beans, $7.50 and $8; apples, $1 to $1.50 bushel; butter, 45 cents; eggs, 45 cents; live fowls, 22 and 24 cents; dressed fowls, 25 and 28 cents; turkeys, 32 cents per pound live and 38 cents dressed; wheat, $2.32 bushel; oats, 70 cents; corn, $2.20 bushel; bran, $39 ton; mixed feed, $43 ton; balanced ration feed, $58 to $60 ton; hay, $13 and $15 ton. A local tin can factory is growing rapidly. Local land values are increasing, primarily because of town real estate activity.—C. H.

Cumberland Co., N. J., (S.) Oct. 29.—Stormy at this writing. Most farmers have their wheat sown and many fields are looking quite green. Corn husking is in progress; many farmers are about thru. Some farmers offering new corn at $1.60 per bushel. The crop in this locality is not as heavy as last year. The prospects for the late potato crop are good. There is quite a large acreage of red skin potatoes in this section.—Everett H. Sheppard.



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Highway Department Policy

State Highway Money and How It is Spent

The following report is condensed from a speech made by W. A. Wynn, Engineer of the Bureau of Township Highways of the State Highway Department, before the convention of the Pennsylvania State Good Roads Association, in recent session at Lancaster, Pa. The report is given rather fully as it is taken to represent the policy of the State Highway Department—a matter of interest to farmers at all times. Mr. Wynn said:

All are familiar with the unusual conditions surrounding us at the present time and with the effect these conditions are having upon the building of state roads. The Department has not been able to award contracts for the construction of new roads as rapidly as had been hoped. The scarcity of labor and the inability to get delivery on materials has brought about unusual prices which, in most cases, are considered excessive. Contracts have been awarded and will be awarded for the building of roads in only such sections as are considered absolutely necessary. This is unfortunate, too, because the last Legislature was fairly liberal and made it possible for the State Highway Department to begin road construction on a comprehensive scale and the State Commissioner realizes what a disappointment it is to the local people, for a great many counties are willing and eager to share in the expense of the improvements. The amounts appropriated and available during the two years ending June 1, 1919, are as follows: State-aid construction in boroughs and townships, $1,500,000; State Highway contruction in boroughs, $6,000,000; Purchase of turnpikes, $500,000; second-class township bonus, $1,873,470.40.

In addition to this Pennsylvania is entitled to receive from the Federal Government, for road construction, the following amounts: Year ending June 30, 1917, $230,644.17; year ending June 30, 1918, $461,288.34; year ending June 30, 1919, $690,145.78. Total Federal aid, $1,382,078.29.

This makes a total for the construction of roads of $8,882,078.29. I have not figured the township bonus money in this amount, because the State Department does not have direct control over its expenditure. The township supervisors have charge of the spending of this money, in accordance with the rules of the Department. In addition to the sum stated several millions can be depended upon from the counties and townships.

Contracts Let

The bids which the Department has received have been excessive in most cases, but a few have been considered as the best that could be obtained under these existing circumstances and in these few cases contracts have been let but only after the local people, who are subscribing half of the cost, have been consulted. The contracts which have been let, or which are about to be let, are as follows:

County	Length Feet	Contract Price
Luzerne	6,285	$ 51,176.77
Clarion	14,128	103,625.00
McKean	82,101	144,249.80
Beaver	23,546	145,198.70
Cambria	11,975	86,278.20
Lackawanna ..	7,821	51,218.60
Beaver	9,299	18,851.50
McKean	22,101	144,249.80
Fayette	6,513	45,825.40
Cambria	9,878	78,855.43
Cambria	11,070	95,881.60
Butler	5,800	30,255.97
Montgomery ...	6,537	44,349.60
Westmoreland .	2,540	20,955.70
Armstrong	13,007	131,468.20
	158,867	1,091,969.47

These contracts total a length of 158,867 feet, or 30 miles, and are for only the most durable forms of pavement, such as brick, concrete and bituminous construction. Other bids will be received for proposed work and, if prices seem reasonable, contracts, no doubt, will be let.

Repair Work

In addition to the appropriations cited, the Department receives the automobile license money and it is used for the purpose of maintaining the State Highways. This branch of the Department's work is very extensive and, I believe I am safe in saying, is being handled to the general satisfaction of the people. On October 17, of this year, the Automobile Division of the State Highway Department had received $3,230,295.50 from this source and on the same date last year, $2,289,148 had been received. This shows an increase of practically $1,000,000 which, however, is largely offset by the very much increased cost of our work over last year.

Township Road Work

The construction of State and State-aid roads and the maintenance of the same is the work of the State Highway Department, with which most of the people of the state generally are familiar. But the Department is also vitally interested in the proper administration of the township road system and the state at large should be concerned about the expenditure of the $1,873,470.40 which was appropriated by the legislature to cover the deficiency due to the second-class townships for the years 1910, 1911 and 1912. Existing laws regulating townships of the second-class provide that each township shall receive 50 percent of the cash tax collected, but not to exceed $20 a mile. This percentage was so high that the Legislatures in the past were not able to appropriate enough to pay the various townships in full. After the above amount is paid, there will still remain a deficiency for the years 1913 and 1914 and it is expected that the next Legislature will appropriate enough to wipe out this debt and, at the same time, adopt some system of appropriation whereby each township will know definitely how much will be received each year.

The State Highway Department has made a ruling that all of this money received by each township must be spent for some class of permanent work and has classified various kinds of work as being permanent. This classification is broad enough to permit each township to make a showing for the money received. Following are the various kinds of work which we class as permanent:

First, buying and installing concrete, cast iron and corrugated pipe and the building of concrete or stone masonry headwalls.

Second, construction of concrete and cement masonry culverts and bridges, built according to the standards of the Bureau of Township Highways of the State Highway Department, or from plans approved by the Bureau.

Third, construction of steel bridges, plans for which have been made or approved by the Bureau of Township Highways.

Fourth, permanent improvement of alignment of road.

Fifth, permanent improvement of grade of road.

Sixth, permanent widening of roads.

Seventh, construction of brick roads.

Eighth, construction of concrete roads.

Ninth, construction of waterbound macadam roads.

Tenth, construction of bituminous macadam roads.

Eleventh, construction of slag roads.

Twelfth, construction of gravel roads.

Thirteenth, construction of flint roads.

Fourteenth, construction of concrete and stone masonry retaining walls to support roads.

Fifteenth, township's share of State-aid road construction.

It is almost a physical impossibility for the Engineers of the State Highway Department to see that the bonus money is spent in each township in accordance with these rules, but I believe that a majority of the supervisors realize the importance of making such permanent improvements and are eager to comply with the rules of the Department concerning the expenditure of the bonus money.

Local Interest

Some supervisors, however, are not consulting us concerning their bridge work in particular and, from inspection made in various parts of the state, we feel that men interested in good roads should help bring about a higher type of work by the supervisors. The idea of economy has been carried so far in quite a few townships that the bridges and culverts already constructed are falling to pieces, either by reason of insufficient foundations, or because of poor and cheap materials. I would urge that all good road advocates acquaint themselves with just what their supervisors are doing and, if their work be faulty, endeavor to bring about better and more permanent construction.

The State Highway Department has a number of Engineers who devote all of their time working among the supervisors and who are accomplishing much good but I am satisfied that the results of the Department's work would be very much increased if all those interested would take hold of the township road problem in their respective communities.

A NEW AGRICULTURAL WORK

Mr. F. R. Stevens, well known to many Pennsylvania farmers thru his many years as Agriculturist of the Lehigh Valley Railroad, has severed his former connection to take the position of Agricultural Director, under the Pennsylvania State Chamber of Commerce. Mr. Stevens will maintain headquarters at Harrisburg, and will give first attention to bringing together all of the agricultural organizations within the state with a view to outlining a constructive policy for agricultural advancement. His early plans are to call together representatives of all of the agricultural organizations to form a statewide agricultural committee. Such representatives will be invited to membership on the committee without regard to whether they are members of the State Chamber or not. The list of organizations includes the State Grange, the State Agricultural Commission, the State Breeders' Association, the State Dairy Union, representatives of the Farm Bureaus, the State Horticultural Society, the Committee of Agriculture of the State Bankers' Association, the Rural Progress League, the Milk Producers' Association, the Produce Dealers' Association, the State Millers' Association, the State Vegetable Growers' Association, the Secretary of the State Department of Agriculture, Dean of the College of Agriculture and the State Forestry Association.

The important lines of work to be taken up will be decided by this committee, but Mr. Stevens has announced a desire to take up some plan for the reforestation of cut-over timber lands of the state, formulation of a policy of food legislation at the close of the war, and advance the plans for handling the marketing problem of the state. The work is understood to be planned after the work being done by the New Jersey State Chamber of Commerce. It is a new work in the state and will be watched with interest as it develops.

BLASTING AND STUMP PULLING DEMONSTRATION

Up-to-date methods of clearing woodland by the use of explosives will be demonstrated on the College Farm, at the New Jersey Experiment Station, New Brunswick, N. J., on Wednesday, November 7, or the next clear day thereafter. The demonstration will be conducted thru the co-operation of the Du Pont Powder Company. The purpose of the undertaking is to obtain data on the cost of clearing land by the use of explosives and also to give the public an oportunity to witness the methods of blasting and the use of mechanical stump pullers. It is desired that a large number of farmers interested in this kind of work will take advantage of this opportunity and be present at the demonstration.

Buying cheaply is not all there is to food economy. Make the fullest use of what is bought.

Farm folks like canned fruits and vegetables during the winter and are better off for having them. Silage provides the same sort of thing for the cow.

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Especially designed Neptune Systems will give you all the advantages of a modern home at a cost within your reach.
Just think of the comfort & convenience for you & your family, Mr. Farmer, in having running water in your home and having it when you want it and where you want it.
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Veterinary

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Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Impure Blood.—Have a seven-year-old donkey troubled with a breaking out on fore legs. Most of sores appear to be near knees. When we wash and bandage legs the parts appear to itch which causes her to bite the sore parts. During the summer the flies seemed to have irritated sores very much. J. B., Old Bridge, N. J.—Give donkey ten grains of potassium iodide and forty drops Donovan's solution of arsenic at a dose in feed or drinking water, three times a day. Apply tincture of iodine occasionally to sores, also apply subnitrate of bismuth twice a day. Try and prevent her from biting herself.

Sluggish Kidney Action—Worms.—I have a stallion, twelve years old, that has had kidney trouble for the past two weeks. So far as I can tell his health is otherwise good. He does not appear to urinate as freely as a horse should. I also have a four-year-old that is troubled with worms. I would like to have you prescribe a remedy that can be given in liquid form. F. L. Q., Iron Hill, Md.—Give your stallion a dessert spoonful acetate of potash in his drinking water, two or three times a day, until his kidneys act freely; then give him some of this medicine when you believe it is demanded. For your four-year-old, dissolve three drams antimony and potassium tartarate in eight quarts of drinking water and give this amount on an empty stomach, and in a few hours give two or three pints of raw linseed oil as a cathartic. This you will find a fairly good remedy to expel the common round worms from the intestines of a horse.

Piles.—I would like to ask you for an opinion regarding the cause of piles in two-month-old pigs? I have twenty pigs, two months old. After weaning we fed them skimmed milk and swill, but kept them closed up. After a short time some of them developed piles. I argued that if these pigs had been allowed to exercise, been fed more roots and grass, this condition would not occur. J. M., Medina, N. Y.—The principal exciting cause of piles is constipation, and doubtless you know that when livestock is allowed to take plenty of exercise and is fed grass and roots, the bowels move several times as often as when they are deprived of sufficient exercise. Perhaps all the pigs need is to be fed food of a laxative nature and given plenty exercise. Dissolve one-quarter pound acetate of lead in three quarts of water and wet protruding parts of bowel, twice a day.

Splint.—We have a two-year-old colt that shows lameness in left foreleg when he trots, but when standing still does not favor either leg. So far as I can tell his leg is not inflamed or stocked. I am unable to notice any lameness when he walks and for this reason the case puzzles me. O. H., Meadville, Pa.—If you will examine him closely you will perhaps find a small hard bunch on inside of leg, below knee, which is the beginning of a splint. This is possibly the seat of lameness. Tap bunch gently with small piece of soft wood and if he flinches you have correctly located the lameness. Paint bunch with tincture iodine daily for few days and he will perhaps get well without any other treatment.

Enlarged Throat Glands.—We have work horse that has movable bunch in throat. So far as I can tell it is not growing any larger, but if it can be reduced I can sell him for $50 more than he will bring in present condition. H. J. B., Corry, Pa.—Give him one dram potassium iodide at dose in either feed or drinking water, twice daily. After clipping hair off bunch, apply one part iodine and nine parts fresh lard, twice a week. This should soon reduce the swollen gland.

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My Father's Help To The Farmer!

In a little settlement of pioneers, called Maria Stein, Ohio, many years ago, Joseph Oppenheim, my father, was the teacher. Studious and quiet, he yet had a personality that appealed, for he was helpful to all. Farming then wasn't so profitable as now, and the women and children had to work in the fields.

The Settlers who came to this country generations back were frugal people. They had to be. Yet they were far-sighted, too. They knew that land could be exhausted—they knew it must be fed if it was to continue feeding them. So they wasted little fertilizer. Barnyard manure was their reliance — as it is yet.

Hence it was scattered on the fields with great care. My father made a hand in this labor occasionally. The children from his school bent weary backs over the task. Their drudgery appealed to his heart. He knew what it meant in aching muscles, neglected schooling and dwarfed opportunity. He knew that such machines as were available neither shredded the manure nor spread it fine and wide.

So he set out to build a machine that would do this and save the hard work. It wasn't easy. Money was scarcer than this generation understands. In his little school house he worked out the idea he had — to make a machine that would help keep his boys and girls in school, and ease the labor of their parents.

It's a long story of how the village teacher saved a nickel here and a dime there, worked early mornings and late nights and eventually built a spreader that carried the principles that make the New Idea the leader today.

So much better was it than the old method of wagon tail distribution that the sturdy farmers called it "Oppenheim's New Idea." After a while, when the work had been brought to a practical stage, we called ourselves the New Idea Spreader Company.

Working out this idea to perfection in the midst of poverty cost great sacrifice and much toil, but ever uppermost in the mind of the inventor was the need of his people. The small shed shown above was built and work started on six machines. They were so practical that he protected the child of his brain by patents, patents that have revolutionized the spreader industry.

How this small plant has grown until ten acres are covered by the present plant, which sold over two million dollars' worth of spreaders last year, is a story my father could hardly believe if he were alive today to hear it.

But his big heart would swell with pride that he had made so great a contribution to American agriculture — that his efforts had brought prosperity and ease not only to his little circle of friends, but to many thousands more.

He lived only to see the business begun. At his death it fell to me — a boy of fifteen — to carry out his plans. My mother put every cent of her little insurance into making it go — and the New Idea was so valuable to the farmer that today he recognizes the New Idea Spreader as the greatest aid to permanent fertility of his fields.

Because this business is an inheritance of the brave effort of my father to contribute something worth while, it is equally dear to me. And because of his ideal, this machine never will be less than the best we can build.

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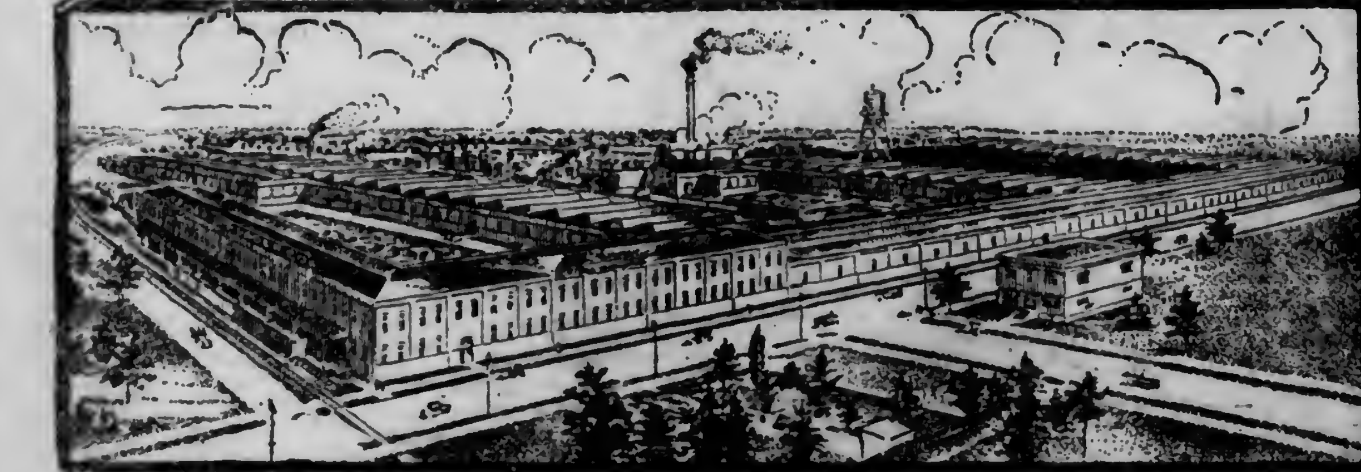

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We bought one of your spreaders about four weeks ago and we have used it in spreading all kinds of manure. We have just finished hauling out about 100 loads of sheep manure, which everyone knows is the hardest kind of manure to spread and your machine did the work the best of any spreader I ever saw work, leaving no bunches, but spreading it all very evenly and throwing no manure whatever on the driver.

As to draft, we have only had a span of colts, one three years and the other four years old to haul it and have no use whatever for the third horse. I believe it to be the strongest built machine on the market and all parts are easy to get at in case it should ever need repairing.

Elmer Gotshall.

Hamilton, Mo

I bought one of your spreaders about three years ago and I consider it one of the best buys I ever made in the implement line. I didn't think at the time I had ever seen a spreader that was equal to yours and I am still of the same opinion. I have given it some pretty severe tests, but it has stood all of them and has not cost me a penny for repairs. No farmer with 40 acres or more can afford to do without one of your spreaders, and there is no machine on the farm that will pay for itself as soon as the spreader. I can safely recommend your spreader to anyone.

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Soy Beans in the Farm Rotation

Qualities that Recommend this Crop for Wider Use

By Prof. A. E. Grantham

Delaware Experiment Station

The soybean, while a comparatively new ant to many sections of the country, has proved be one of the most desirable of the newly inoduced plants in the United States. There several reasons why the soybean should be ven special consideration by the farmer in the rn belt. For a long time two of the pressing eds of the farmer have been for a larger supy of nitrogenous feed and also for a crop that ill improve the soil in a way similar to that of d clover. It is well known that red clover as part of the crop rotation is less dendable now than formerly.

The soybean seems to suit these reirements very well. The protein connt of soybean hay is very similar to that alfalfa and the land upon which the ans are grown shows the effect of the eceding crop on both corn and wheat. his indicates that the soybean gathers nsiderable nitrogen and releases it for e non-leguminous crops which may folw. Experiments thruout the country inicate that the soybean will eventually come a crop of great practical importce wherever corn is grown and hogs and ttle are fed. These experiments, togeth with results secured by practical grows, indicate that the soybean can be comined in the system of crop rotation so as furnish abundant forage and at the me time improve the soil. It must be membered, also, that the culture of soyans does not require expert labor or ecial machinery in growing and harvestg. The better crop of forage, the greater yield seed, the ease of growing and harvesting, and e freedom of the plant from insect enemies and ant disease recommend the soybean to the avere farmer. Likewise, the soybean will appeal almost every farmer since it has a high comercial value in its seed furnishes rich forage d at the same time makes soil improvement.

Soybean Hay

Soybeans make a hay of gh feeding quality, if anyhing superior to red clover d cowpea hay. Some dairyen claim slightly better relts from feeding soybean y than from alfalfa. The eding value of soybean hay es in its high content of diestible protein. However, the beans are cut when the ods are fairly well developed, e hay will contain a conderable percentage of fat. ompared with the hay from her leguminous crops adapt to the corn belt, soybean ay is equal or superior to y. First-class soybean hay ntains nearly as much proin than oil meal and only a ttle less than cottonseed meal. It appears that either the grain or the hay from the soybean plant serves as a first-class source of protein with which to balance corn or corn stover in feeding growing stock or in feeding for milk production. These comparisons should be suggestive to the stockman or dairyman who is now buying large quantities of high priced concentrated feed such as bran, gluten or cottonseed meal. The use of soybean hay which can be grown on the farm would lessen the necessity for so much purchased feed.

Soybeans Six Weeks From Planting — Dela. Exp. Station

Feeding Value

Feeding experiments thruout the country bear out the claims of high feeding value. At the Tennessee Experiment Station soybean hay and alfalfa hay were fed in combination with corn silage and corn-cob meal for feeding to dairy cows. Each lot consisted of 4 Jerseys and the test was conducted thru three periods of 30 days each. The lot fed soybean hay made 245 pounds of milk and 20.5 pounds of butterfat more than the lot receiving alfalfa hay. This experiment indicates that soybean hay is fully equal to alfalfa hay for dairy cattle. The hay is relished by all kinds of stock. Even hogs will eat the hay to good advantage, and as a winter ration for young cattle, sheep and horses it is excellent.

As Pasture

Under certain conditions the soybean may be used for pasture to advantage for a brief period. The late summer and early autumn is a period when pastures are likely to become short. Cattle may be turned on the beans as soon as they are fairly well developed. Perhaps the most profitable method of pasturing soybeans is to hog them down. Hogs greatly relish the bean plants, especially the ripening pods. A considerable part of the growth of young hogs may be made by bean pasture. The soybeans blend well with the corn crop for fattening hogs in the fall, since the two mature at the same time. The two crops may be grown together and then pastured down, as is often done with corn. Or the corn and soybeans may be planted in alternate rows or mixed and drilled in the same row. In case it is desirable to prolong the grazing period for hogs, early, medium and late varieties may be seeded. Certain early maturing varieties may be sown after wheat or oats and make sufficient growth for considerable feed in the fall. The Alabama Experiment Station found that when corn was fed, 100 pounds of pork cost $7.63, but when fed a two-thirds ration of corn and pastured on soybeans the cost was $2.74 per hundred pounds of pork.

Sowing the beans in rows for pasture is desirable since there is less loss from trampling. The practicability for pasturing soybeans depends on the kind and number of stock kept on the farm, the labor available and the market value of the soybean seed The feeding value of soybeans utilized in this manner is supplemented by the increase in soil fertility due to the manure and refuse vines

Part of Corn Cut to Show Growth Made by Soybeans in Corn

As Concentrate

The analysis of soybean seed shows a high content of protein and a fair proportion of fat which would indicate that the feeding value would compare favorably with the other concentrated feeds. Soy beans contain about 35 percent protein, while linseed meal and cottonseed meal have 35 and 38 percent, respectively. Careful feeding trials have been conducted by several experiment stations with the view of comparing the value of soybean seed in comparison with some of the commercial feeding stuffs. In these experiments the beans were ground when fed to cattle and hogs and fed whole to sheep.

In an experiment conducted by the Wisconsin Station, two lots of 10 lambs each were fed the same roughage. One lot received shelled corn and whole soybeans in equal proportion, while the other lot was fed the same quantity of shelled corn and whole oats. For a period of 12 weeks the gain of each lamb was 16.3 pounds when soybeans were a part of the ration, and but 13.7 pounds when oats were used. The soybean ration produced a pound of mutton on 6.11 pounds of grain and 7.11 pounds of roughage; and the oats ration gave a pound of gain for 7.28 pounds of grain and 8.62 pounds of roughage. For the same length of time two lots of 9 lambs each were fed the same ration used above. Those fed the soybean ration gained 119 pounds in weight and produced 95.1 pounds of wool as compared with the lot receiving the oats ration, which made a gain of 71 pounds in weight and produced 81.3 pounds of wool.

The Massachusetts Station compared soybean meal with cottonseed meal for milk and butter production. In this experiment the results were the same. A slightly larger quantity of milk was produced by the soybean ration. The butter from the cows fed cottonseed meal was slightly firmer, but otherwise of poorer quality than that from the cows fed soybean meal. In general. the experiment showed that soybean meal was equal if not superior to cottonseed meal for both milk and butter production. In Tennessee it was found that the yield of milk and butterfat was about 5 percent greater for soybean meal than for cottonseed meal. .

Many experiments have been conducted for comparing the value of soybeans with other concentrated feeds in pork production. The Indiana Station found that when hogs were fed a ration of two parts corn meal and one part tankage, the soybean ration produced the greater gain. The quantity of feed consumed for each pound of gain was larger in the case of the lot fed soybeans. The Missouri Station, in a study of soybean meal in comparison with linseed meal and tankage, showed that the three feeds were equally effective in promoting the growth of young hogs. No difference was noted in the palatability.

Market Value of Seed

Soybeans have, in addition, a direct market value in the seed. During the past few years there has been an active demand for seed of the better varieties of soybeans. The large yield and high prices of this seed should encourage the growing of the crop for seed alone under certain conditions. Some of the best varieties of soybeans will yield from 20 to 30 bushels of seed per acre. These yields, of course, are not reached except on land in a good state of fertility. During the past season one of the leading varieties of soybeans sold for as much as $6 per bushel for seeding purposes. The disadvantages which attend the harvesting of cowpeas are not common to soybeans. The character of growth and the uniform maturing habit of the bean make harvesting easy and recommend the plant for seed production. Aside from the value of seed must be considered the benefit to the soil on which the beans have grown, as well as the threshed vines as a source of feed or bedding material for livestock. Practical farmers are now using the wheat binder for cutting the beans for seed. Where the vines stand erect it is possible to do very good work with this machine.

As Soil Improver

One of the most important values of the soybean is the effect it has on the soil. Like cowpeas and other leguminous crops, it leaves a store of nitrogen in its roots and the adjacent soil, so that an increase in the following crop is easily noted. The root system of the plant is such that it has a desirable effect in loosening the soil upon which it grows. The fact that the soybean makes the most of its growth in a period of 90 to 100 days renders the crop of value for green manuring. It has been shown that green manure equivalent to one ton of soybean hay will return to the soil as much nitrogen as is contained in the grain of a 55-bushel crop of corn or a 40-bushel crop of wheat. This indicates the great capacity of the plant for gathering and holding nitrogen.

Medium Green Soybeans and Corn Growing in Combination For Silage

Soybeans should not be allowed to mature before plowing under as decay goes on less rapidly then and the soil is not so exhausted of moisture by plowing under earlier. The green soybean decays very rapidly in the soil, an advantage in a manure crop. In many cases the crop will be too valuable to plant for green manure alone. However, it will often pay to follow wheat or oats with soybeans, which in turn will make sufficient growth for a good crop of green manure by the time the land should be seeded to fall grain. In the latitude of Philadelphia, the wheat and oats will come off in time to be followed by soybeans. The Kansas Station reports an increase of 14 bushels per acre of corn where corn followed soybeans in alternate years as compared with corn continually.

An 8-16 Tractor on Two-Bottom Plow, Monmouth Co., N. J.

In Rotation

The high feeding value of the soybean and the price of the seed will hardly warrant the use of the plant for soil improvement alone. It appears that the crop can be used to the best advantage by planting soybeans in the regular crop rotation, thus supplementing the beneficial effects of the clover. In this way most of the desirable effects of the crop may be combined. The cash value of the seed is sufficient to encourage the growing of soybeans as one of the main crops of the rotation. Among the other advantages of the crop should be considered the value of the plant for promoting tilth and increasing the nitrogen supply of the soil. Wheat, winter oats and winter barley may follow soybeans, requiring little soil preparation as the beans leave the soil in a condition that it may be prepared by dis In sections where crimson clover is a depend crop, the clover may be harvested for hay and land turned and fitted for soybeans and a m mum crop secured. In this way two crops forage can be secured from the same land in season.

Where red clover fails or is grown with ficulty soybeans may be used to take its p However, it is not the purpose of this ar to discourage the growing of red clover, rather by a system of crop rotation include beans so that they may be grown in conjun with red clover. In cases where red clover sh fail, as following the wheat crop, the land be planted to soybeans. This furnishes for in place of the clover.

Soybeans may be combined adv tageously in many systems of crop ro tion. The greater frequency with wh legumes are grown in the rotation, t less rapid the soil depletion. With cr son clover or red clover, the soy be form a combination that should make rapid soil improvement. In order to co bine these three legumes in one rotati the following scheme might be used: Fi year corn, followed by crimson clover be turned under for corn the second ye The second crop of corn may be follow by crimson clover, which is removed hay in May of the third year. The land then fitted for soybeans and these harvested for hay in time to sow wh which occupies the land the fourth y The wheat is seeded to red clover timothy in the usual way and hay oc pies the land the fifth year. This gives a f year rotation in which four legume crops used. This rotation is ordinarily adapted to requirements of the livestock raiser as it furn es pasture, hay and grain. While corn is gro two years on the same land, yet the intercrop crimson clover serves to help maintain ferti This rotation may be reduced to a four-y scheme by omitting corn one season.

Other combinations may be made, depend on the soil and the system of farming. It is s ficient to say that the soybeans blend well w most cropping systems and for that reason can utilized to the greatest extent for both feed soil improvement and also for market purposes

(Editors' Note.—This is the first of a se of articles on soybeans. E periences of growers w have made a careful study soybeans, and those who h given them a fair chan shows that there is a need a greater use of this cr Soybeans have several vantages over alfalfa other leguminous crops they will grow profitably many sections where oth legumes are not easily grow They can be made to fit in the regular rotation and of value as a cash crop, as soil renovator and as a f age crop for practically kinds of live stock. Oth articles from writers in di ferent parts of the East w appear in early issues, di cussing the various pha of this crop and its uses in the farm system

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FENCE POSTS

In building fences, it is a good plan to u none but posts of the same timber. No two ti bers possess the same degree of durability and posts of several kinds of wood are used, some the posts will decay much sooner than others. care is not exercised in the placing of the less du able posts the fence will come to the groun When posts of different degrees of durability a used the durable and the less durable posts shoul be used alternately—that is, one of the poor posts should come between two of the good ones

On account of the combined action of a and moisture a post is more susceptible to deca at the point where it emerges from the ground. heavy coating of paint or coal-tar at this poi will lengthen the life of the post several years.— T. Z. Richey.

Drainage Systems for Eastern Farms--III

Planning and Laying Out a Complete System

By R. A. ANDREE

Pennsylvania State College

After studying the land and comparing its requirements with the systems previously outlined, it will not be very difficult to decide on which system or combination of systems to use. After the correct system is selected, the next question would naturally be: How far apart and how deep should the laterals be placed, what is the proper size of tile to be used, and how much fall should be given them. It is not good practice to lay any tile in Pennsylvania less than 4 inches in diameter. The difference in efficiency between a 4-inch and a 3-inch tile is more than sufficient to pay for the slight extra cost of the former. With few exceptions 4-inch tile are satisfactory laterals in this state, so long as the length of any one lateral does not exceed 1,300 feet in a very loose soil, and 1,800 feet in a very tight, impervious soil.

The size of a main tile is dependent upon the kind of soil, the slope or grade, the length of the line, the rainfall, and other influencing factors, such as seepage water, etc. It is therefore practically impossible to give any definite rule as to the size of mains to be used. In a tough clay soil, smaller tile can be used than in a loose sandy loam. The longer the line, the larger the tile must be. The steeper the grade, the smaller the tile may be. The accompanying table may serve as a guide in determining the size of mains necessary for a particular condition.

Table I.—Capacity of Main Drains

Fall in Main per 100 ft. Main not to be over 2000 ft. long (from C. G. Elliott)

Diameter of Tile in inches	5-8 in.	1 3-16 in.	2 3-8 in.	3 5-8 in.	4 3-4 in.	6 in.
			Acres of land drained.			
5 ..	14.0	16.7	20.9	24.5	27.5	30.3
6 ..	22.2	26.4	33.0	38.6	43.5	47.8
7 ..	32.7	38.7	48.5	56.7	63.8	70.1
8 ..	45.6	53.9	67.7	79.0	89.1	98.0
9 ..	61.2	72.3	90.7	106.0	119.4	131.9
10 ..	79.5	94.0	117.9	137.6	155.3	170.5
12 ..	124.9	147.9	185.6	216.9	244.1	268.6

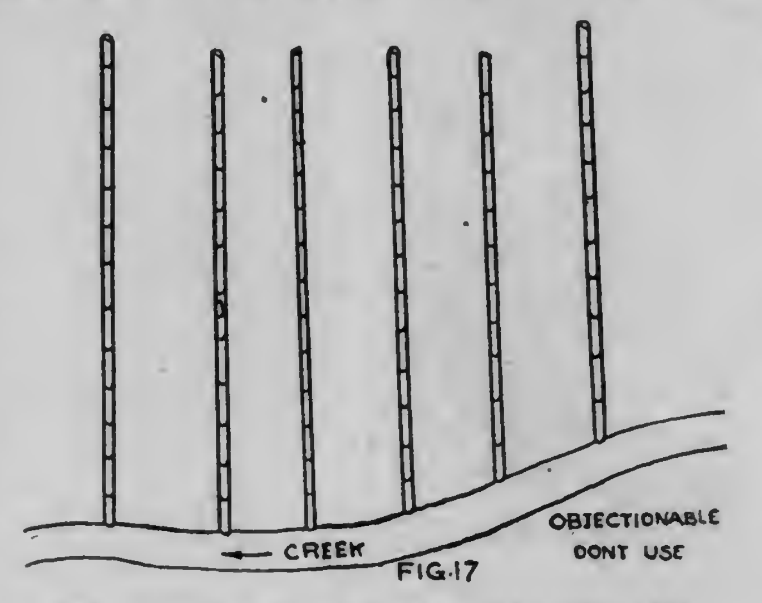
It is very questionable whether any drain should be laid less than two feet deep. Occasion might arise where that might be necessary; but for fear that everyone intending to drain will feel that in his particular case it is necessary to drain more shallow, it would be well to establish the rule to place the drains two feet deep, or deeper. The advantages of deep drainage have already been set forth. On rolling land the depth would necessarily vary, since the slope of the tile must be kept uniform. In such cases the average depth should be considered. Sometimes it becomes necessary to make a cut of 8 or 10 feet thru a small knoll in order to preserve the grade and no hesitancy should be shown on account of so small an obstacle.

The distance apart of laterals depends somewhat upon their depth, but primarily upon the kind of soil. The looser the soil, the deeper and arther apart laterals may be placed. Table No. 2 is to be used as a guide in determining the depth and frequency of laterals. Here again no hard and fast rule can be given, since so many outside influences may have to be taken into consideration.

Table II.—Frequency and Depth of Laterals

Kind of Soil	Distance apart in feet	Depth in feet
1. In a very dense clay soil which holds water for a long time like blue clay	30-40	2-2.5
2. Silt loam which is an intermediate between 1 & 3	40-60	2.5
3. A loam which is easily worked when dry and which loses its water fairly rapidly when drained	60-80	3
4. Sandy loam often called a light soil which is an intermediate between 3 & 5	80-100	3-4
5. Gravelly loose soil which is wet on account of seepage water, springs or sometimes an underlying layer of hardpan	100-200	4

The grade or slope of the line of tile has much to do with its efficiency. It is extremely important to keep the slope uniform. So many troubles arise from the neglect of this very essential point that its importance can hardly be over-emphasized. In no case should a slope of less than 2 inches in 100 feet be attempted by an inexperienced man. It requires careful surveying and considerable skill when tile are laid with less slope than this. The greater the slope, the less danger there is from trouble due to faulty construction.



Tile Opening Into Creek.—Objectionable.

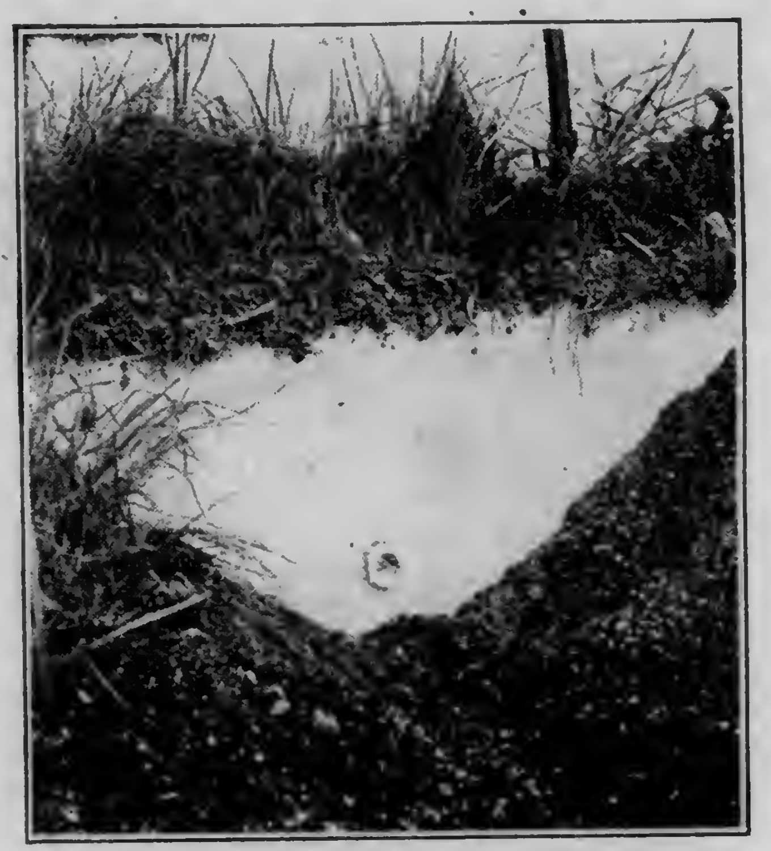
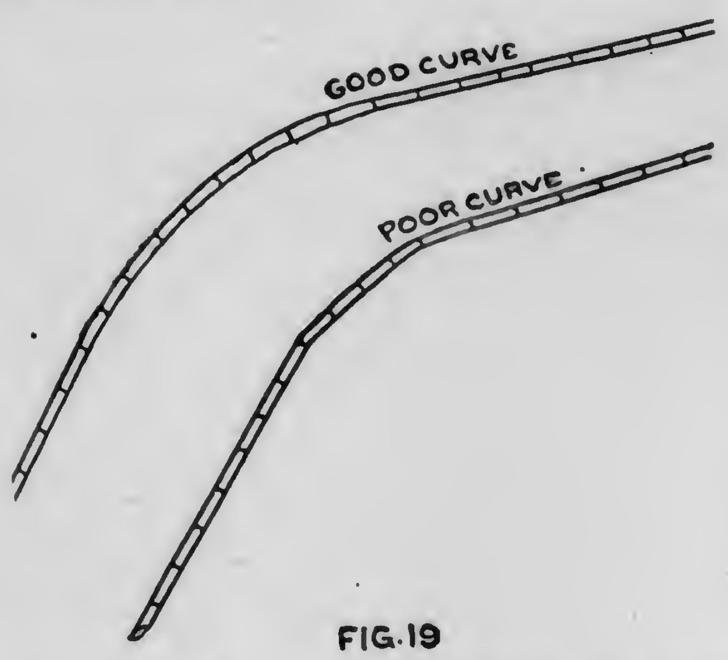


Fig. 18.—A Well-Constructed Drain Outlet a Necessity

In certain cases it becomes necessary to change the grade a little. When a change is made from a certain slope to a greater one, no harm is done so long as the change is made gradually. When a change from a great slope to a lesser one becomes necessary, it is well to install a silt well at the point of change. The well should be accessible so that it can be cleaned out every year. If the well is not installed the tile line usually becomes clogged by the silt which is dropped from the water, due to the change in grade. Table No. 3 gives the minimum slope and also the length limit of laterals.



Sharp Curves Retard Flow of Water and Cause Sedementation

Table III.

A title whose diameter is	Should have a fall per hundred feet of at least	and should with the minimum fall not be used in a line longer than
4 inches	2.0 inches	1,800 feet
5 "	2.0 "	2,200 "
6 "	2.0 "	2,700 "
7 "	2.0 "	3,000 "
8 "	1.5 "	3,300 "
9 "	1.5 "	3,800 "
10 "	1.0 "	4.300 "
11 "	1.0 "	4,900 "
12 "	1.0 "	5,700 "

In case more fall can be given, the lines can be comparatively longer.

The most troublesome part of any completed tiling system is the outlet. For this reason it should be exceptionally well built and the system should be so designed as to have only one outlet if possible. This is also the reason why the individual main system as shown in Fig. 17 is so objectionable and is never to be used. If tile are allowed to stick out of the ground unprotected near the outlet, they soon become dislodged and washed from their foundations. Before long the ground works in between the joints of the shifted tile and the whole system suffers. Fig. 18 shows a well constructed outlet.

Note.—This is the third article in this series. The fourth article, taking up the actual operations of laying a drain, will be published in an early issue.—The Editors.

Cut Wood During Winter

Today the farmer is compelled to limit the work he does strictly to necessary operations. The cows must be milked, animals fed, ground prepared and seeded, and many other similar tasks of daily routine accomplished. The shortage of labor and independence of the laborer has crowded the farmer's day full and tied him to his post more tightly than ever. It is doubtful whether many farmers will be in position to make an opportunity for a winter vacation, which is quite as essential for the farmer as for any other person.

But sometimes the more one has to do the more he accomplishes. It is unnecessary to mention the things to be done on the farm during the coming winter. In view of the present coal shortage which is world-wide, and caused more by a lack of labor, freight cars, and locomotive power than that the coal isn't in the mines to be had, the idea has come to me that farmers who have wood-lots might find it profitable to retain such laborers as they have been able to get for cutting cord wood in spare times during the winter. If the wood sells for only enough to pay for the laborer's wages and board it would prove a profitable venture because the man, if he is a good one, would be on hand the first thing in spring when he is so badly needed.

If such a plan is adopted it would be well to include in the winter's wood-chopping old hedge rows and trees about the home grounds which have not been cared for and have become covered with poison ivy and are nothing more nor less than eye-sores. In the issue of September first, Father Penn speaks of the "exacting individual responsibilities and the persistent discharge of onorous duty" as an important factor in the development of strong, healthy men and women. To this I would add environment as important. The surroundings of the home as well as the interior should be of such a nature that the child, boy or girl, will develop a wholesome pride in it. Well-kept grounds are a mark of pride and it is by cutting out old trees and other little tasks of similar nature which makes its appearance attractive to the eye.—John H. Voorhees.

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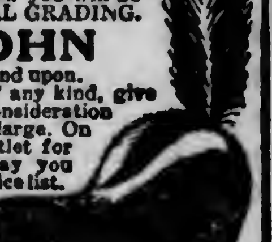

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Better Roosting Quarters

A Big Factor in Egg Production

By J. RAYMOND KESSLER

Comfortable roosting quarters are as much a factor in obtaining egg production from a flock of hens as any of the many details of care and feeding. In fact, warm roosting quarters for winter not only help increase the production of the flock but also materially reduce the feed bill. The usual plan followed in Northern latitudes is to have the roosts set in a space formed like a closet with an open front, and a curtain that may be dropped at night for protection from the cold.

The roosting closet should be small enough to confine the heat of the fowls and thus protect them from the excessive cold of the winter nights and at the same time be of such construction as will allow opening up for summer to provide an abundance of air and thus avoid suffocation. Far too many roosting quarters provide only the latter quality, but the attainment of a combination of the two is by no means impossible.

The very best way to construct the roosting closet is to place the droppings board against the back wall of the house, which should be solid and draft proof, and run the board the entire length of the pen, the side walls of the house or the partitions dividing the pens forming the sides of the closet. Thus with a solid floored droppings board all that is necessary to form a roosting closet is to hang a curtain at the front.

The droppings board should not be more than three feet above the floor for the egg breeds and for the general-purpose and heavy breeds not over two and a half feet. Few hens of the larger breeds are able to reach a higher droppings board. Where the poultry house is not over five feet high in back this hight of droppings board will leave two feet and a half of space from the droppings board to the roof which will be found ample.

Where the flock is small or the climate very severe it is even advisable to seal the space above the roosts with tongued and grooved boards, reducing the amount of space over the birds' heads even more. This makes a tighter closet with smaller space for the fowls to heat during the winter nights.

A majority of commercial poultry raisers have found the level droppings board to be the best. The sloping board would seem to be an advantage in cleaning, but it has the disadvantage, if the roosts are placed one above the other, of causing the fowls to crowd on the back roosts. Even tho the roosts are placed all at the same hight, the sloping board gives some of the perches the appearance of being higher thus causing crowding. The sloping droppings board also necessitates a great deal of air space under the roosts making the quarters very cold in winter. Heavy hens have difficulty in reaching roosts so arranged. With a flat board and perches all on the same level, the air space under the hens is much reduced and the fowls are willing to use all the perches without crowding on any particular one.

A great many roosting quarters are made uncomfortable for the hen because of the ungainly big roosts which keep the hen from gripping a perch in the way nature intended her to. When a hen sits down the bending of her knee joints causes her toes to automatically close and grip the roost. This is Nature's way of keeping the hen from falling off while she is asleep. Square perches, or those of such size as to prevent the hen's toes from closing naturally about the roost, are bound to be uncomfortable and painful to the hen. Exceedingly small roosts should also be avoided.

The best roost we have found is made from two by three stuff split in half, making two pieces each one and a half by two inches. The edges of the material are then well rounded and nailed to the cross-supports with the two-inch side up. The roosts when finished will measure about one and three-quarter inches across the top by one and a quarter inches thick.

We have always considered it a mistake to place the roosts a foot above the droppings board, the only advantage of such a height being the possibility of cleaning the board without raising the roosts. Four inches will give sufficient clearance for the fowls, and, as for the cleaning, the cross-supports may be hinged to the wall at the back, thus making the cleaning easy by simply raising the roosts upward and fastening them with a hook from the ceiling. The advantage of such low roosts is that the hens are close to the floor, thus leaving little cold air space under them, and they cannot crawl under the perches and sleep where the other hens will foul them, as is frequently the case with high roosts.

The number of inches of roost needed per hen is dependent to a very great extent upon the size of the flock. In flocks of a hundred fowls or more, it is a safe rule to allow about six inches of roost for each bird. During cold weather the fowls will hardly occupy more than two-thirds of this space, but in summer it will all be needed. Smaller flocks—say from fifteen to twenty-five hens—will need several inches more roost per bird.

A flock of one hundred hens in a house eighteen feet deep by twenty feet long, having a droppings board twenty feet long, will require three lengths of roost, or about sixty feet. A flock of twenty-five in a ten by twelve pen, with a droppings board ten feet long, would require about two lengths of roosts, or twenty feet.

All roosts should be placed one foot apart from edge to edge, and there should be at least that much space allowed between the wall and the back roost and from the edge of the droppings board to the first roost. This would necessitate a droppings board four and one-half feet wide for three roosts and three and one-half feet wide for two lengths.

For convenience in handling it is best to have the roosts cut into sections of not over ten feet each and nailed to two two-by-three cross-pieces, placed about six inches in from the ends of the roosts. It is advisable to place a small block of the thickness of the roost in the center of each length of roost, half way between the cross-supports, to prevent the roosts from sagging.

The front of the roosting closet should be protected by a curtain of muslin rolled on a stick, which can be raised or lowered as desired. In very severe climates poultrymen frequently find it necessary to use six or eight-ounce duck instead of muslin, and in some cases tight-fitting screens are used instead of drop curtains. We have found it a good plan to leave a small opening at some place along the bottom of the curtains so the hens may come off of the roosts as early as they wish.

As a usual thing the curtain or screen must be hung along the edge of the rafters, which leaves open spaces between the rafters. These spaces should be closed with pieces of board. By hinging these boards between the rafters and having them to close against cleats they can be used very effectively as ventilators of the roosting closet.

In continuous houses, additional ventilation for summer may be had by making the solid partitions between pens removable so they can be replaced by wire ones for summer. For the winter months it is advisable to have solid partitions at the droppings boards every twenty feet so as to avoid drafts.

There should be a sufficient number of fowls in the roosting closet to avoid any possibility of frozen toes or combs. A good plan is to have the roosting quarters warm enough so that the droppings will not freeze while the fowls are on the roost. Of course, the droppings will freeze very quickly after the fowls come off in the morning because all the heat is gone. This fact must be remembered.

Overheating of the roosting quarters must be avoided, as nothing will more quickly give hens cold than coming out of an overheated roosting closet into a cold pen. Overheating will cause the quarters to smell damp at night and cause the formation of white frost on the walls and ceiling in the morning. Such conditions indicate a lack of ventilation.

The proper adjustment of ventilation can soon be learned by the poultryman through visiting the roosting quarters at night after the fowls have been on the perch for several hours.

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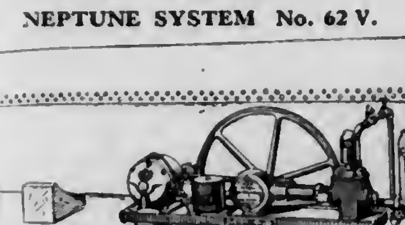

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Annual output 70,000 tons.

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Best Prices Paid Send us your calves, eggs, shellbarks, black walnuts, live and dressed poultry for the holidays.
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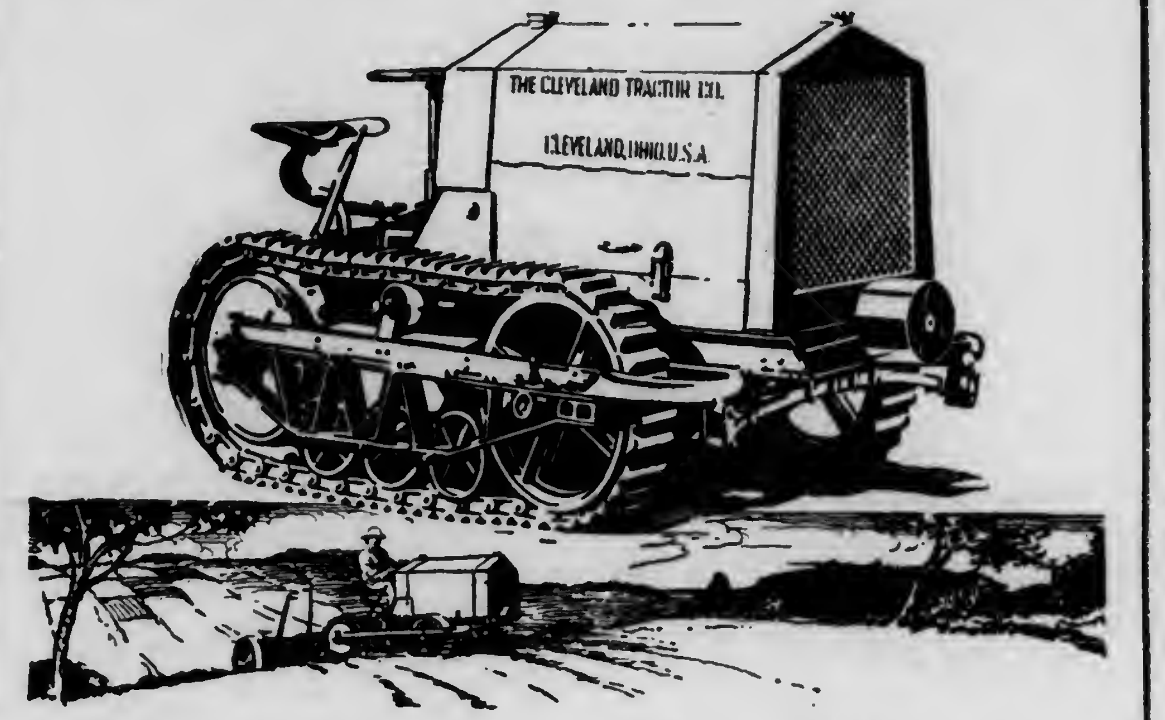

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CLEVELAND, OHIO U.S.A.

Cleveland Tractor

Prepare *Now* for Bigger Crops Next Spring

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Munition plants and factories in general are working at top speed. They have steadily drained farm labor from the fields. Now the draft has taken many more men.

You must cut down on labor requirements. That is exactly what the Cleveland Tractor, the country over, is helping wide-awake farmers to do.

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We are so crowded with orders that we cannot promise delivery of new orders before January 1st. So it is necessary that you order now for delivery early in 1918.

Write to us today for full particulars and name of the nearest Cleveland dealer. Use the coupon or address Dept. AA.

CLEVELAND TRACTOR COMPANY
Cleveland, Ohio, U. S. A.

CLEVELAND TRACTOR CO.
Dept AA Cleveland, Ohio

Please send me full information about the Cleveland Tractor.

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Their enormous production of milk and butterfat makes them the most profitable breed as milkers. Their tremendous size makes them most profitable when they go to the block. They hold all records for dairy production and average 40% more for beef than smaller breeds. Write for free booklets—no obligations, we sell nothing.

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PHILADELPHIA, PA., NOVEMBER 17, 1917.

Y. M. C. A. Work One of our soldier friends who has been in France for several months writes: "Too much cannot be said of the work of the Y. M. C. A. Representatives of this organization do more for the comfort and physical and moral welfare of the soldiers than can ever be appreciated until it is seen. They do the things that are forgotten by others. They are on the job when and where others have not thought to prepare. For example, a body of American soldiers en route for ——— had to leave their train one morning at 4 A. M. It was raining hard and the men did not know the little town or where to go. They were tired and none too well pleased with the prospect of a wet, cold wait. They went to the little railroad station and there met a Y. M. C. A. man in uniform. He said: 'Come on, boys. We have been expecting you. We have rolls and hot coffee waiting for you up at the Y.' This is but one example. It is being duplicated all over this country every day."

This seems to be the general verdict of the men "over there." War is stern business, and the making of war often means the breaking down of some of the finer qualities of the men engaged. To guard and safeguard these finer virtues is one of the main purposes of the Y. M. C. A. The army has been called the hands of the country in time of war. The Y. M. C. A. and the Red Cross are the heart. There is a chance for all to help in the good work of these institutions. The Y. M. C. A. is making a campaign for funds. Contribution to this fund is one of the finest duties that comes to any of us in this time of universal sacrifice.

* * *

The Election Several factors made the late election of more than usual interest for an "off" year in many places. As usual, the unexpected happened in a good many instances proving again that election prophets deserve to be without honor any place.

In Pennsylvania the chief interest was in Philadelphia where a worthy but more or less sincere effort was made to overthrow "contractor rule" in city politics. Popular indignation was aroused over a murder resulting from strong-arm methods used in conducting the primary election in September. The best citizens were genuinely interested in reform, but many people believed that the opposing "gang" was making capital out of the incident to regain control of the city government and were not sincere in their "abhorrence." The result of the election seems to leave the control where it was before, altho contests are promised.

In New Jersey the most interesting thing is the success of the local option forces in electing a majority of representatives to the legislature who are pledged to local option. The amendment for statewide prohibition in Ohio seems, at this writing, to be defeated by a small majority. Prohibition carried in New Mexico by a big majority.

In New York City the political feeling ran high, drawing out a vote much larger than the average. The contest was between four candidates for mayor, the present mayor, Mitchel, being a candidate on an independent ticket. The surprise here was in the overwhelming majority given to Hylan, the Democratic-Tammany candidate; also, the immense vote which Hilquit the Socialist candidate received. Mitchell seems to have made a mistake in bringing in the question of patriotism so strongly and in questioning the loyalty of other candidates. Another surprise was the overwhelming majority given the woman suffrage amendment. By this, New York becomes the first state east of the Rockies to grant full suffrage to women.

We have not heard how many districts in Pennsylvania elected, or tried to elect, women to the school board. Two were elected in the city of Scranton, thus adding to the number of women city school officials, and showing in another way that city people are more alive to the needs of education, and more alert in procuring the best possible equipment, teachers and officials.

* * *

Milk Profits The report of the settlement of the Chicago milk controversy, published on page 10 of this issue, is of interest to all milk producers. In agreeing to fix a price based on cost of production, plus a profit, the Federal Food Administration is bringing an established rule in business to the dairy business. The rule is the same that is used in other lines of commercial and industrial work, but new to any branch of farming. It is readily appreciated that the success of the plan to be put into operation in the Chicago market will depend upon the justness of the report on the cost of production. From information coming to us from unofficial sources we are led to believe that this report will be founded on the most exhaustive investigation that has ever been attempted, and that it will be just and fair to all interested classes. It seems possible that the report will be issued in a form that may be applied to any section of the country and for all conditions of market and labor situations. If so, the decision and final adjustment in the Chicago market will have a far-reaching effect, and will undoubtedly be enforced in other market centers.

* * *

Crop Reports The folly of long distance crop reports has been well demonstrated this year. Claims for record-breaking crops began to go out early in June. Even when the bulk of the corn crop was but a few inches high, official reports assured the public that we would have one of the largest crops on record. Long before the potato crop had "set" officials were telling the public that there would be an abundance of tubers and that it was a duty to cultivate the potato-eating habit and thus save on less abundant foods. Worse still, the country was given the assurance that we had, as a valuable asset in preparation for war, an abundance of all staple crops in ready prospect for the winter. In many quarters the appeals for honest conservation of food were defeated by the claims of record crops. Consumers were unable to see the necessity of conservation with all of the big crops coming on and to be ready for winter consumption.

Now the later crop reports are cutting estimates. We learn that the corn crop is short in spite of increased acreage. We learn that the early frosts and the shortage of labor which made it impossible to dig potatoes in many sections have cut the potato crop to a point where the shortage of last spring is likely to be repeated if not exceeded. We learn that a general shortage of hay and the shortage of corn, resulting in continued high prices of corn and other grains, is curtailing the feeding operations, and causing the feeding of wheat in some sections. We learn that the boasted yields are far short of early reports and that the country is facing a serious food situation. The November crop reports are still optimistic but record big losses from previous estimates. Well-informed observers predict that the December reports must record further declines.

The Department of Agriculture is not to be blamed for early frosts and a cold summer which retarded all plant growth. It is not expected to foresee all of the limiting factors that may arise to curtail the final harvest even when a crop is well on its way to maturity. But it is to blame for not appreciating its limitations in the work of forecasting yields and making proper allowances. It is to blame for preparing the public for record-breaking crops at a time like this only to have those hopes blasted at the end of the season. It is to blame for a false conception of crop producing power which made the country prodigal of its limited labor supply.

* * *

Time To Wake Up We have always endeavored to be optimistic under all circumstances and above all to never appear as alarmists. But a calm and careful consideration of the facts as they exist, and an honest inventory of our possessions and prospects shows that it is time we realized more fully the real situation in regard to our food supply now, and the outlook for the future.

If we were to take without question the reports of the Department of Agriculture—and that is what the public is relying upon—we might feel assured of plenty. But information from other sources fails to confirm these figures and, while we have enough for the present, the outlook for the future is gloomy enough when we consider the demands from outside and the prospects for production next year. It is temporarily pleasant, no doubt, to live in a fool's paradise but there is always a sad eviction ahead for the tenants. Unless there is a waking up of some authorities high up, we will see actual want in this country within a year.

In proof of this we may point to the actual shortage of some staple crops now when compared with the world's needs, and to the prospect for reduced acreages next year. It is this latter situation to which we wish to call attention with all the emphasis we can place. The dearth of sufficient, capable farm labor is a mighty serious fact and if, as we have been told, food is to win the war, it will not be won unless there is something done to stop the drain of labor from the farms so that they be sufficiently manned for maximum production. Thousands of acres of food crops have suffered this fall because of insufficient labor—one of the causes being the army draft. Again we must place some blame upon the Department of Agriculture for what we believe to be its failure to acquaint the military authorities with the actual labor conditions on the farms of the nation. There has been a serious blunder committed somewhere which permitted the already short labor supply to be further reduced. It will do no good to poke our heads into the sand and try not to see it.

Food is a pressing problem in a greater part of the world in normal times of peace, and how much greater it becomes in a time like this—its solution bearing heavily on the final outcome of the war. M. Bloch, the great Russian banker, wrote several years ago: "That is the future of war—not fighting but famine; not the slaying of men, but the bankruptcy of nations, and the breaking up of their whole social organization." We believe that it is just these things which are at the basis of Russia's weakness and disruption today.

Practically all the allied nations except the United States and Russia import a great part of their food in times of peace. How much more dependent are they now, and the United States is their chief dependence. From a purely economic point of view, and considering the subject in its relation to the success of the war, it becomes of the first importance. Hungry men will not—cannot—wage war. Is this country able to meet the responsibility which rests upon it? We have the acreage and the farm equipment to do it effectively IF labor, fertilizers and transportation are available, and the greatest of these is labor.

We are not posing as prophets when we say that next year's production will be below that of this year, and that the demands will be greatly increased. We simply use our knowledge of arithmetic. Thousands of farmers have already planned to greatly reduce their acreage, and countless others will attempt little or nothing. What's to be done? The first is, stop conscripting needed farm labor into the army; second, direct volunteers or drafted men from other business, but who have had farm experience, to the farms; third, send back to the farms those who are experienced farm hands and have already been accepted into the army; fourth, if necessary (but only then) use the power of the conscriptive act to draft new men for farm work. Since the maximum production of food is of first importance, the farms must be fully manned to accomplish it. This will beat all the advice, investigations, bureaus and experts the department can get together.

HARRISBURG NOTES

The Last Furrow.—Results of the rious county and municipal elec ons in Pennsylvania in which the ate administration took a hand in e hope that it could strengthen its sition to win nominations on the ate ticket to assure continuance of umbaugh men in office have been such character that observers of ings on Capitol Hill look for an tburst of interest in governmental airs that will be surprising. The ifting in some branches of the gov nment lately has been as notorious the absence of the governor and s delays in making appointments d closing up matters after the gislature adjourned. The agricul ral commission, in which the gov nor professed such interest for a ng time, furnishes an example and e state may expect a revival of eeches on agricultural advance ent; establishment of the Reserve ilitia, details of which have been ady for the governor's approval nce before the election; endorse ent of the move to cut down acci nts in industrial plants and moves furnish the farmer with labor, in ort almost anything that will ake people forget the political en prises of the administration and phasize its deep and abiding con rn for the welfare of the state.

More Sheep.—Farmers and land ners who have suddenly awaken to the value of sheep and goats for aring land and of the money to made in cattle and swine have en confronted with a rising mar t. Notwithstanding this condition, wever, there have been thousands dollars invested in sheep and the forcement of the new dog code, hich becomes effective January 1, ill mean much. Indications are at there will be insistence upon en rcement of the dog law and when e animals are penned up sheep rais g will be freed from one of its eatest drawbacks. An effort is be g made to ascertain how many eep have been placed on state rms.

The Hunting Season.—From all counts the hunting season is pro ssing without many more acci nts than heretofore in spite of the ct that there are more hunters, and experienced ones, in the field than r years. Less trespassing is also ported. The kill of rabbits and ail has been large and there are any wild ducks, altho complaints ve come to the state capitol that rmers are protecting quail because the value of the birds. Elk and er have been reported from a dozen unties as making trouble by raid g orchards or fields and state in tigations are under way.

Holding up the Cars.—The manner which the officials of the new ate Bureau of Markets have started investigate reports that cars load with vegetables and other food ffs are being held up at various ilroad centers and demurrage arges actually paid upon them so at the produce will spoil and not thrown upon the market, and hit ces is well worth noting. Such ports have come here from time to e and farmers have been blamed the men who have been behind e game. Under the act creating Bureau it has broad powers and y confiscate and sell in the open rket cars of foodstuffs when it n be established that they are be g held for speculation and likely spoil.

The Coal Situation.—According to e men who have been put in charge the fuel situation in various coun by the national government, and o have authority to seize cars if essary, a plan will be worked out ereby everyone will get some coal less the car situation prevents. Un tunately the fuel administrators ve the handicap of being named so e in the year that while inquiring o needs they are beset by demands the season. From what can be rned here it is all a matter of car tribution and there is no excuse dealers jumping prices from day ay. Reports to the men in charge n speedily correct attempts to take vantage.

Farm Labor.—The corn problem il strates what the farmers are up inst, and with a second draft call ing in February it can be seen at some systematic distribution of r next year is going to be es tial. The demands of the shipbuilding industry and of the iron and steel and other lines which have to back it up just at this time are a matter of much concern in the country.

Speakers Wanted. — One of the sidelights on the preparations for the start of the winter institute season which is well worth noting is the demand for speakers. Not only have requests come from the committeemen in charge of the institutes for men to discuss special subjects, including soils, but a multitude of letters have been received at the Capitol from men active in associations, clubs and other organizations which are interested in farming or marketing. Never before has the demand for speakers been of such dimensions and as most of the requests mention some specific subject upon which expert information is wanted, it shows the way the state can help. The State Public Safety Committee's assumption of the expenses of farm advisors helped to a certain extent in furnishing experts this summer, but just what can be done this winter has not been decided.

Road Work Held Up. — Governmental requisitions of cars have forced the suspension of road work all over the State Highway system and that too in the face of the fact that the state has more money for maintenance than ever before and will have more next year when the 1918 automobile licenses are issued. It is feared that unless teams can be secured from local quarries, and that is almost impossible in some sections, there may have to be a cessation. This would be unfortunate in view of the increase of traffic certain this winter by motor trucks because of railroad congestion.

The Rural School.—It is probable that some plan or policy for aid of rural schools in war time will be adopted soon. Quite a few districts have been unable with state aid and local taxation to make salaries attractive enough to hold teachers in the face of higher pay offered in industries and supplies and materials have gone up rapidly. — Hamilton, Harrisburg, November 12, 1917.

NEW JERSEY FARM NOTES

Marketing Stories Disproved.—Investigations which have just been completed by the Bureau of Markets of the Department of Agriculture deny the allegations which were made during the past summer that farmers and produce dealers were practicing illegal and wasteful methods in attempts to manipulate the market. In August the Bureau's attention was directed to an alleged situation in Monmouth County, where it was claimed potato fields were being bought up by speculators who intended to allow the crops to rot unharvested, in order that the speculators might send the price of the remaining product soaring. It was found that no potatoes were rotting and that fewer fields had been sold before digging than usual, as the farmers were looking for better prices when cool weather came and preferred not to sell so early. The subject of food dumping on the piers at New York and at the railroad terminals and meadows in Jersey City was investigated also. It was shown that a very small percentage, .0007 of the early potatoes, had to be destroyed because they were dug under unfavorable rainy conditions and shipped in hot weather. Peaches and onions from partly distant points in this country and some from across the water were destroyed in a quantity of less than five percent of the shipments, caused by transit delay. The pineapples from Porto Rico were destroyed in about the same proportion as other years. Assorted fruit and beans showed little loss. Damaged in a fire and considered unhealthful when offered for sale, 15,000 pounds of raisins were destroyed. The amount of coffee destroyed represented but a fraction of .01.

A rebuke is administered by Alexis L. Clark, chief of the bureau of markets, in commenting upon the investigation's findings and the careless criticisms which were made. "It may be stated here," said Mr. Clark, "that a point which the bureau insistently emphasizes in all its activities is a better understanding of conditions and methods between those who sell and those who buy. The distribution of food stuffs is too vital a business to tolerate ignorance and suspicion. It is hoped that this report which entailed a great amount of study and work and which was only made possible thru the assistance of railroads and the Health Department will put a stop to the careless and wicked stories so frequently voiced in the past. There is already too much criticism aimed by careless consumers at wholesale and retail dealers. The same is true of the attitude of farmers toward dealers.

Milking Shorthorns.—Recognizing the value of the Milking Shorthorn as a breed of cattle combining the qualities of meat and milk production, the State Agricultural College at New Brunswick has purchased four of these cows for its herd. They will be exhibited before visitors and used for judging by the Short Course students and others at the college. Also accurate records will be kept of their feed and the milk production for comparison with the other breeds in the herd. The cattle bought represent the best breeding among Shorthorns in the country, all coming from dams with Registry of Merit records. While not recommended for the commercial dairy, milking Shorthorns have a distinct place on the small farm or the general farm where the operator wishes to fatten a few beef cattle and produce some milk on a small scale.

Full Crews Demanded.—The Board of Public Utility Commissioners has filed a report denying the application of the Central Railroad for permission to reduce the number of men employed on certain classes of freight trains operating under the "Full Crew" law. The Board found that the railroad did not produce sufficient proof that the reduction of the crews would be justified. The Brotherhood of Railroad Trainmen fought the application.

Rations Recommended.—Prof. W. M. Regan, of the State Experiment Station, has recommended to the state institution farms the adoption of a uniform ration for feeding the dairy cows. It is as follows: 600 lbs. of corn and cob meal; 500 lbs. hominy or 500 lbs. corn meal; 200 lbs. wheat bran; 200 lbs. cottonseed meal; 50 lbs. gluten. Mr. Regan has declared it will require 770 tons of feed and cost $50,000 to supply the herds on the state farms this coming year. The cost of producing milk at these institutions under present conditions was fixed at 9 cents a quart and the value of silage was placed at $7 a ton.

NEW YORK LETTER

Sheep Men Form Fur Company.—A sheep meeting was held in Utica this week, with an auction sale of sheep which were on exhibition. An organization of Karakul sheep breeders was formed, to have a capital of $75,000, half of which is already paid in. The new company has purchased six registered rams for $17,500, and 414 acres of land near Prospect. They will also purchase 360 head of Lincoln ewes from a Canadian farm for producing the half-blood stock which breeds the Persian lamb of commerce. This stock, however, will be used for breeding purposes only.

City to Sell Food and Fuel.—New York City has received permission from the state food commission to buy and sell food and coal, under the Wicks' law provisions. Much interest is felt as to the outcome, especially in the handling of milk and coal.

Teachers Plan to Reduce Illiteracy.—Immigrant education as a means of reducing adult illiteracy will be the subject of several meetings held by the New York Teachers' Association to be held November 26, 27 and 28, in Syracuse. The Governor is greatly interested in the teachers' plan. Meetings will be held in the evening schools and Americanization sections, in an effort to help the State Department of Education in an effort to carry out Governor Whitman's wishes. Child illiteracy has diminished 45 percent the past year. The state as a whole now plans to seriously attack and reduce adult illiteracy.

Bakeries May Close.—Bakeries in the outskirts of Syracuse may close because of a shortage of flour and sugar. No profiteering is reported: 11 and 12 cents is charged for granulated sugar. The real famine in sugar is only beginning, it is said.

FARM MEETING CALENDAR

National Grange Meeting, St. Louis, Mo., November 14-23.

Short Courses in Agriculture at Rutgers College, New Brunswick, N. J., open Nov. 20.

International Live Stock Exposition, Chicago, Ill., December 1-8.

New Jersey Horticultural Society, Newark, N. J., December 10-12.

Pennsylvania State Grange, Williamsport, Pa., December 11-13.

Palace Poultry Show, New York City, December 11-15.

New York State Dairymen's Association, Syracuse, N. Y., December 11-14.

Maryland State Grange, Belair, Md., December 11-13.

Maryland Agricultural Societies, Baltimore, Md., December 18-21.

Madison Square Poultry Show, New York City, December 28-January 2.

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PENNSYLVANIA FARMER
261-263 S. Third Street, Phila., Pa.

Record-Making Cattle Sale

134 Head Holsteins Sold for $85,285

Holstein history was made at Columbus, Ohio, October 26 and 27, in the National Dairymen's Sale, when 134 head were sold for a total of $85,285 which means an average of $636.45, these figures not including $3,000 paid for a bull calf which was donated to the Red Cross. Only four other Holstein Sales have ever been held which equaled this average. In this sale, there were no $10,000 to $50,000 animals to help swell the total, the highest price being $7,100 for the 44-lb. cow, Pauline De Kol Ophelia, followed by $6,000 for a 35-lb. son of Rag Apple Korndyke 8th and $4,000 for a 30-lb. cow bred to Rag Apple Korndyke 8th. Outside of these three animals, nothing in the sale crossed the $3,000 mark, altho altogether 31 animals in the sale sold for $1,000 or over.

Pennsylvania buyers proved the most liberal in their purchases, one concern alone, Belvoir Farms, Allegheny Co., Pa., taking 20 head at $29,065. The highest record cow ever offered for sale, Pauline De Kol Ophelia, 44.51 lbs., was taken at $7,100 by F. R. Babcock, also of Allegheny Co., Pa. She had been bred to Ormsby Jane King, the oldest son of Ormsby Jane Segis Aaggie, which makes a World's record average for the calf she is carrying 45.42 lbs. butter, 858.5 lbs milk in seven days. When the price on this cow stood at $4,400 Mr. Pelletier offered $5,000 for her next calf, either sex, at 6 weeks old and this stimulated the bidding, raising the price to $6,100. At this point, George Abbott the owner of the cow made an offer of $12,000 for a bull calf from her by King Korndyke Sadie Vale or Rag Apple Korndyke 8th. Mr. McAdam then publicly offered a free service to King Korndyke Sadie Vale for a second service and later Mr. Niemann duplicated the offer to Rag Apple Korndyke 8th for the benefit of the purchaser Mr. Babcock if he should care to avail himself of it. The bidding then continued, John Arfmann making a bid of $7,000 and finally Mr. Babcock raised him $100 at which price she was struck down to him. When asked if he accepted Mr. Pelletier's offer of $5,000 for the next calf, he replied. "Somebody will have to pay more money for it, I am just going to give you a little run for your money."

Battery of Monolithic Concrete Silos on Walker-Gordon Farm, N. J.

The 9-months-old son of the 44-lb. cow was taken at $2,600 by H. F. Homann, of Ohio, a young man who has been breeding purebred Holsteins for only two years, but who has a full realization of the value of an outstanding herd sire. This bull w a bargain at the price, as the on bull ever offered for sale from a hig er record dam was taken for $53,2

The sale was promoted by and u der the management of E. M. Ha ings Co., Lacona, N. Y., while Co Haeger, Kelley, Perry, Mack a Hess did the selling with S. T. Wo as salesmaster.

A Red Cross Bull

One of the most gratifying f tures in connection with the s was the attitude of the Holstein m present toward the Red Cross shown by their response to the do tion of the young bull by Ralph K of Ohio. This young bull who w sired by Pontiac Aaggie Korndy and from a granddaughter of King the Pontiacs, the second dam be a 30-lb. cow, was put up on aucti the first day and sold to H. A. Mo and A. W. Green for $500. They nounced that they would donate price paid and the bull would put up at auction again on the ond day's sale, proceeds again to to the Red Cross. The following ternoon right after lunch, the b was led into the ring again and ter an eloquent and impassioned peal by Col. Perry, the subscript book was opened for $100 donati followed by further donations smaller amounts, until the handso sum of $2,055 had been placed this way. It was the original p to accept subscriptions on the b then send him to Massachuse where he would be kept until Brattleboro sale in December, w it was planned to sell him again the benefit of the Red Cross. H ever, as C. W. Ellis, Jr. donated other calf to be sold at that time was decided to sell the young bull the highest bidder at this sale, calf to remain the property of bidder. He was accordingly put again and was taken at $395 by W. Green of Ohio. This made a b of $2,950 and Quentin McAdam ad $50 to his $100 already placed, m ing the grand total $3,000 which sale management will remit to Red Cross headquarters.

The following matter presents condensed form the essential f concerning the National Dairym Sale: One hundred and thirty b sold for $85,285, an average $636.45. These were taken by buyers from twelve states and C ada. Thirty-one head sold from 000 to $7,100. The heaviest chaser was Belvoir Farms who 20 head for $29,065, twelve of

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number costing from $1,000 to $6,000 per head.

Four animals consigned by George A. Abbott, Cortland, N. Y., brought $11,325; average $3,831.25.

Eight head consigned by Oliver Cabana, Jr., Elma Center, N. Y., brought $17,610; average $2,201.25.

Seven head consigned by Emblagaard Dairy, Marquette, Mich., $5,830; average $832.87.

Two animals consigned by Ohio Board of Administration, Columbus, brought $1,910; average $955.

Ten head consigned by Quentin McAdam, Utica, N. Y., brought $8,420; average $842.

Seven animals consigned by John Arfmann, Middletown, N. Y., brought $,830; average $832.87.

Fifteen head consigned by J. M. Hackney, St. Paul, Minn., brought $11,755; average $783.67.

Ten head consigned by Wm. C. Miller, Newark, O., brought $4,530; average $453.

Five head consigned by L. C. Gerow., Knoxville, Pa., brought $1,985; average $397.

Nine consigned by S. B. & F. D. VanBuskirk, Hornell, N. Y., brought $3,430; average $381.11.

Four consigned by Corkwell & Best, Newark, O., brought $1,430; average $357.50.

Four consigned by Clayton S. Zeliff, Hornell, N. Y., brought $1,275; average $318.75.

Ten consigned by J. H. Phelps & Son, Vernon, N. Y., brought $2,140; average $214.

Nine consigned by F. R. Babcock, Pittsburgh, Pa., brought $1,855; average $206.11.

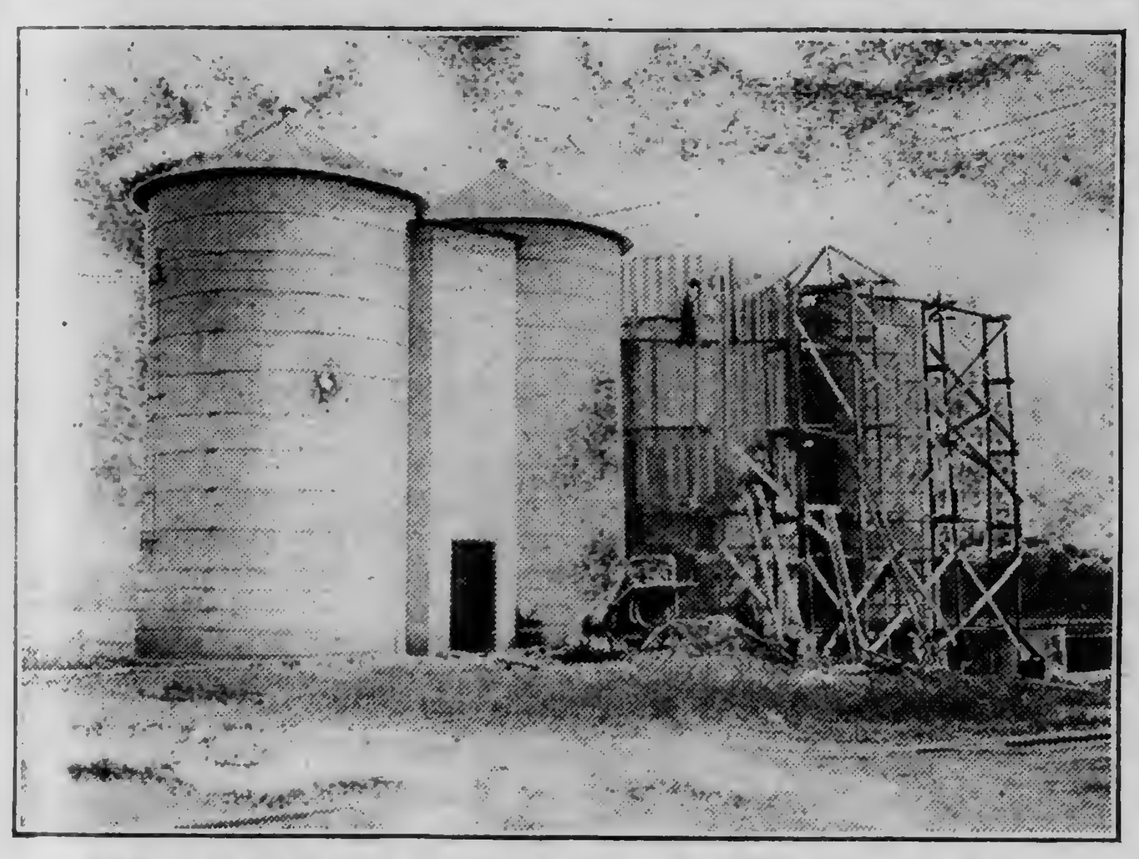
Eleven consigned by C. W. Ellis, Jr., Cortland, N. Y., brought, $1,890; average, $171.61.

Five consigned by F. M. Acker & Son, Hornell, N. Y., brought $785; average $157.

Five consigned by R. E. Head, Batavia, O., brought $789; average $156.

Seven consigned by Clermont Holstein Breeders Co., Bethel, O., brought $925; average $132.14.

Two animals consigned by R. E. Head & The Clermont Holstein Breeders' Co., brought $255; average $127.50.



New Stave Silos Built This Fall on Walker-Gordon Farms

MILK SITUATION IN MARYLAND

The prediction of the officers of the Maryland State Dairymen's Association that there would be a shortage of milk in November, owing to the slaughter of dairy cows, seems to have come true. Baltimore City has never before been so short of milk. The supply has fallen from a daily production of 30,000 gallons to less than 22,000 gallons, and unless some steps be taken to conserve the dairy herds there will be a still further decrease in production.

Dairymen all over the state are closing out their entire herds. In Harford County alone 300 cows were offered at public sale during the first two weeks of November, beside several herds having been disposed of at private sale. These conditions have been brought about by the scarcity of labor and the high price of feed, without a corresponding increase in price for dairy products.

There seems to be a lack of confidence among the producers in the sincerity of the Food Administration to set a fair price to the producer for his milk. They were asked to not set a price until after the investigation on the cost of production and distribution. This was promised by the 20th of September. The price arranged for September was 28 cents per gallon for 4 percent milk, delivered in Baltimore.

The price committee, respecting the wishes of Mr. Hoover, did not establish a price for October, as they thought it best to wait the result of the investigation. But on the 30th of October they asked for a conference with the dealers, and it was the unanimous opinion that some steps should be taken to stop the slaughter of dairy cows.

At this meeting there seemed to be more willingness on the part of the dealers to co-operate with the Association than ever before and the price agreed on for November was 30 cents per gallon, and a tentative price of 30 cents for December and January. This was thought necessary to show the producer that if conditions remained the same he would receive the same price during the winter and if the cost of production still further increased, there would be a readjustment of prices.

The State Dairymen's Association is stronger today than ever before owing to the increased confidence of the members in co-operation and organization. The membership is growing, having organized another county association in Washington County during the latter part of October. The milk that is produced in this county is consumed in the city of Hagerstown, and is now being retailed at 8 cents per quart, the farmer only receiving 18 and 20 cents per gallon—far below the cost of production. The farmers who supply the city of Cumberland in an adjoining county where they have a county branch of the State Associa-

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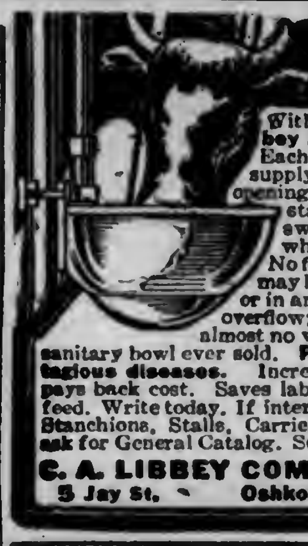

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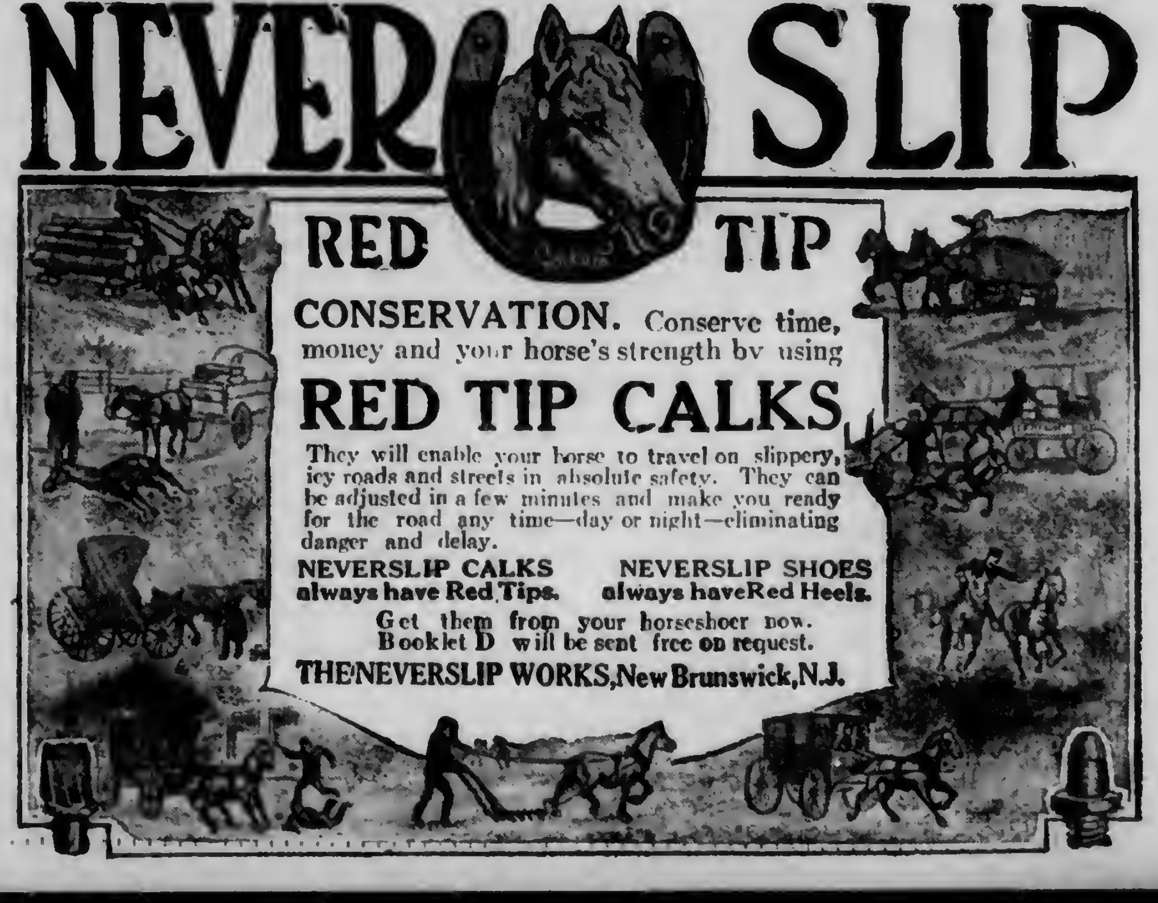

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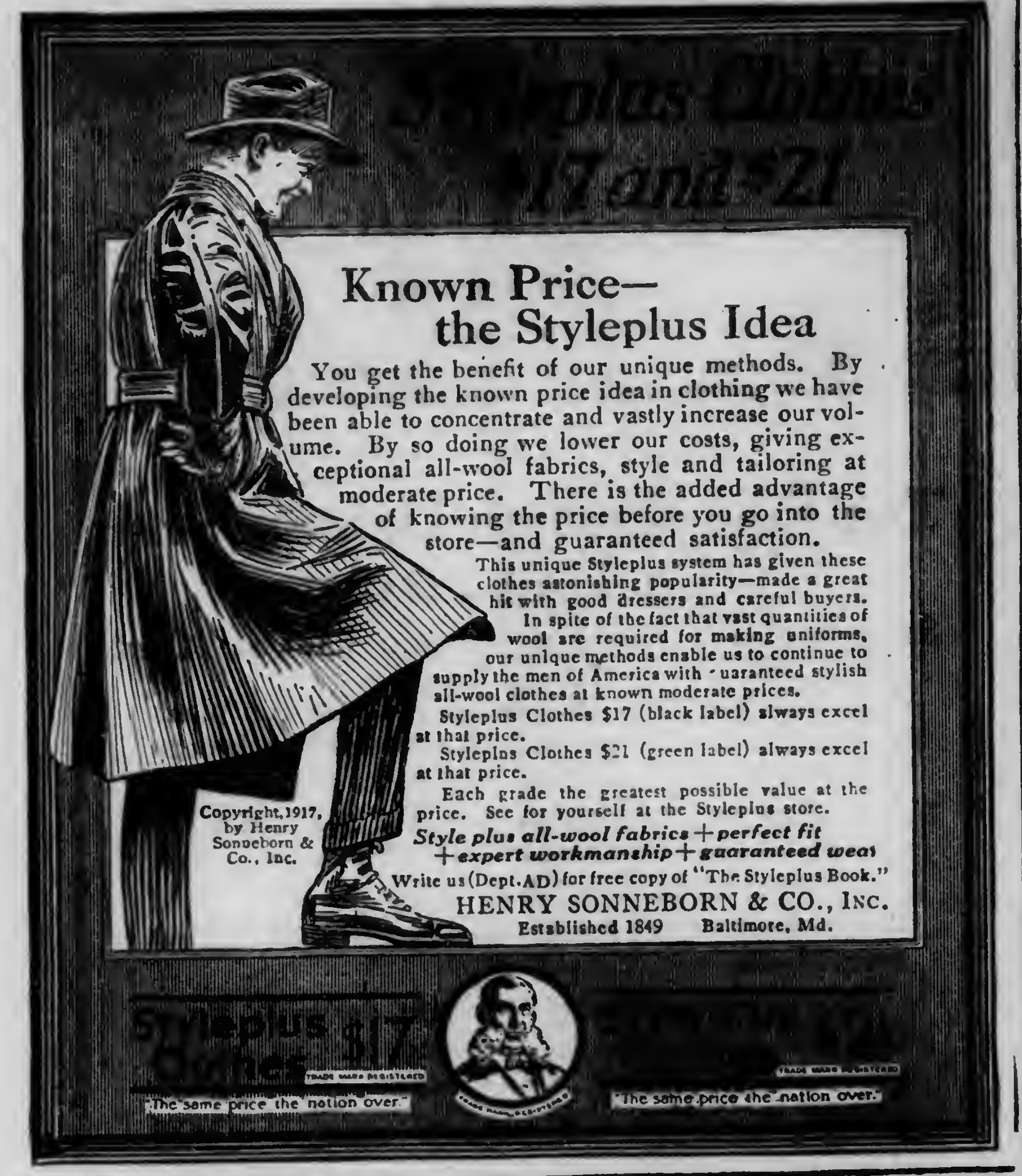
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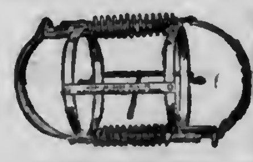

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tion, are retailing their milk at 12 cents per quart.

The motto of the State Dairymen's Association is to protect the dairy interests of the state and we believe the only way to do this is to cooperate with each other, with the distributor and with the consumer. If this is done, it will be a great deal better for all.—D. G. Harry, Pres., Harford Co., Md.

ELGIN BOARD WILL CLOSE

At the request of the U. S. Food Administrator, the Elgin Butter Board will be closed for the duration of the war. A half century ago Elgin was the center of the creamery industry in Elgin, Illinois. The small creameries in this territory, generally known as the Elgin District, were pioneers in the practice of offering their butter for sale at meetings of the Elgin Board of Trade which were attended by butter buyers from Elgin, Chicago and other cities.

For many years the quotations established for creamery butter were the basis on which creameries generally sold their butter and purchased their butterfat. Of recent years Chicago has absorbed the milk from that district and Elgin has ceased to be a creamery center. The few persons interested in the operation of the Elgin Board have been more interested in prices than in production and sales have not been based on actual commercial conditions governing butter or butterfat. For this reason the request to close was made, as the U. S. Food Administration thinks it advisable for prices to be more dependent upon actual market conditions.

THE CHICAGO MILK SITUATION

Cost of Production, Plus a Profit

After a season of conferences, the controversy over the price of milk for the winter period in the Chicago dairy district came to an end when 52 of the directors of the Milk Producers' Association met on November 2 and discussed the situation with Mr. Harry A. Wheeler, of the Food Administration. Mr. Wheeler set up the proposition that if the producers would yield in this matter for the two months of November and December and allow the Food Administration to make a price of $3.22 per 100 pounds for their milk, he would guarantee that the Food Administration would make a full and complete report of their findings on the cost of producing milk, and that within sixty days. He also guaranteed that their finding of the cost of producing milk plus a fair profit should be the price for the six months of January, February, March, April, May and June, 1918, and further, that if these findings should show that milk was sold during the months of November and December, 1917, too low, the difference would be made up to the producer by adding this to the price that shall be found to be the correct price at which he may sell his milk during the six months named above.

This plan, when worked out and carried out, will practically put the producing and marketing of milk upon a new basis, equal with other industries, which is that of having a fair profit added to the cost of production. It will very readily be seen that this action really places the dairy industry upon a much safer basis than it has ever occupied before, as it is a well understood fact that the tons and tons of milk that have been produced and marketed in this great district have been produced and sold at nearly all times below the cost of production. As the result of this settlement, the producer has been guaranteed by the Food Administration their figures upon the cost of production with a fair profit added.

To the thinking member of the Milk Producers' Association, this is very encouraging, for it was with this end in view that the Producers' Association sent delegates to Washington, D. C., in August and again in September with the intent of working in strict harmony with the Federal Government for the preservation of the dairy cow. It must be admitted, however, that many are very much discouraged by this agreement, as evidenced by the very many auction sales of entire herds thruout the Chicago district.

Reports from Green County, Wisconsin, show that over 1,000 dairy cows were shipped out of that County during the month of October, and that fully as many more will go during November. Sales in the Elgin district were never so numerous. Farmers who have been in the dairy business ever since the establishment of the dairy industry in the Fox River Valley are selling their entire herds.—W. J. Kittle, Association Secretary.

DAIRY INDUSTRY ON SECURE BASIS

Jersey Club in Optimistic Report

It is universally recognized that the welfare and increase of dairying is of vital importance in the present world's crisis. The dairy cow supplies us with most vitally necessary human food. That many dairy cows have been recently slaughtered, owing to the scarcity of farm labor, the high cost of cattle feed, the high price paid for beef animals and the comparatively inadequate price paid for dairy products, is also well known. How far these conditions have affected the purebred dairy cattle has frequently been asked. It can be answered, so far as the Jersey breed is concerned, by a report recently made to the Directors of the American Jersey Cattle Club The fiscal year of this Club begins April 1, and since that date there has been an increase in Jersey registrations of 44 percent, an increase in transfers of ownership of 9 percent, an increase in year's authenticated milk and butterfat tests of 5½ percent, and an increase in gross income of 44 percent.

Notwithstanding the many adverse conditions affecting generally the dairy interests, and the great amount of work in support of these interests recently carried on by this organization, the financial condition of the American Jersey Cattle Club was never so satisfactory as it is now. The Club has total resources of $193,800.

Successful Dairy Sale

The A. B. Twining sale of Holsteins and Guernseys, Harford County, Md., was a complete success. The twenty-five grade Holstein and Guernsey cows, including five first-calf heifers, sold for an average price of $140 per head. The top price on Holsteins was $230 and on Guernseys was $201. These were good animals. The best Holsteins had cow-testing records of over 14,000 pounds of milk in twelve months and weighed from 1,300 to 1,400 pounds.

Horticulture

AMERICAN POMOLOGICAL SOCIETY MEETING

The thirty-fifth biennial session of the American Pomological Society was held at Boston, Mass., Oct. 30-Nov. 1, 1917. A good program had been prepared, containing subjects of general interest to students of fruit growing, and of value to those engaged in the production of fruit. In spite of the fact that it is a national organization, and that the meeting was held in a good fruit-growing district, the meeting was poorly attended, very few being present even from the immediate vicinity.

The exhibit of fruit was of the highest order, both as to quality and appearance, and showed the possibilities and achievements of New England as a fruit-growing region. A splendid opportunity was presented by this exhibit to show the people of Boston what was being produced in their locality in the way of fine fruit, but through the inactivity of the local managers and the failure to enlist the interest of the newspapers and thus secure publicity there were no city visitors.

The displays contained the choicest of winter varieties of apples—Northern Spy, Baldwin, Greening, MacIntosh, Wolf River, Ewalt, Wagner, etc., and were of unusual size and color. The packing was done in an especially attractive manner. The states exhibiting were Massachusetts, Vermont, Connecticut, Rhode Island, New Brunswick and Canada.

Apple Breeding

The exhibit of seedling apples made by the Experimental Farm at Ottawa, Canada, was most interesting. It contained exhibits of the parent apple and the seedling apples resulting from planting seeds of each. It could be readily seen that some varieties almost always had the power of transmitting their characteristics to their offspring, while in others no similarity was to be found in the seedlings. Prof. W. T. Macoun, of the Ottawa Experiment Station, who has done much in the line of apple breeding, in an address on the subject said that certain varieties, notably Northern Spy, Wealthy and MacIntosh, had exceptional power in influencing the character of their seedling offspring. It was found that nearly one-half of seedlings from MacIntosh were worthy of propagation. He further found that bright red apples nearly always produced red seedlings; also, if the female parent was poor in quality, no high-quality seedlings need be expected. He stated that in general nothing further than this could be forecast as to the results to be looked for when planting seedlings.

The Blueberry

Prof. J. H. Gourley, of Durham, N. H., discussed the commercial production of the blueberry. He stated that this berry is found universally in New England, Maine being the greatest producer, having 250,000 acres which are annually gathered. Otherwise this land is unproductive. A great proportion of this product is canned, the rest being shipped mainly to Boston. The estimated returns are $60 per acre. Between 60,000 and 70,000 bushels are sold annually on the Boston market, amounting to between $175,000 and $180,000. It is usual for pickers to get two-thirds for picking. Some land owners sell the privilege to pick for twenty-five cents per person. A hand-picker will gather about one bushel per day, while those who use "rakes" can gather three bushels, but the product must be hand cleaned. The largest shipments of blueberries are made from the hard coal regions of Pennsylvania. As many as 50 carloads per day are often shipped from this section. They are gathered chiefly by the women and children of miners.

Discussion brought out the fact that blueberries offer encouraging promise for development by cultivation. Intelligent care causes them to grow to two or three times the size of the wild berry, and at the same time the quality is improved. Blueberries, like the cranberry, require an acid soil.

Spraying vs. Dusting Peaches

Prof. A. J. Farley, of the New Jersey Experiment Station, in discussing this subject, said that results from these methods produced very similar results in controlling scab. The small or inexperienced grower finds some difficulty in preparing the self-boiled material, since it is hard to get pure lime; hence the product is variable. The material, also, has a great tendency to clog the nozzle. He recommended a dust spray made as follows: 4 pounds of hydrated lime, 8 pounds finely ground sulphur. After these are mixed together, add one and one-half ounces of glue dissolved in hot water.

Dusting saves time but requires more material. The equipment is not useful for other kinds of work. It was brought out in the discussion that leaf curl may be controlled by spraying before the leaf husk opens the least bit, preferably early in the winter.

Ever-Bearing Strawberries

Mr. L. J. Farmer, of Pulaski, N. Y., in speaking on the question of the success of the ever-bearing strawberry, said: "With us they are a decided success, but it must be remembered that they are decidedly a northern berry and will not be successful in the south." Others, however, told of growing them successfully south of Mason and Dixon's line.

Mr. Farmer said that the Frances was the best variety, being large, glossy and of good flavor. The Americus is the most cosmopolitan, as it may be grown over a wide range of climatic conditions. The Minnesota is the best bearer, and the Superb is the most generally planted and is most prolific of all for spring crop. The Superb variety is the healthiest and most vigorous plant of all, but the flavor is only medium. Plants must be set very early in spring, and a crop may be expected the coming fall. The amateur will do best to let them bear both spring and fall. Mr. Farmer finds that when properly grown the ever-bearing strawberry is a money-maker, but usually people must be educated to eat them.

Prof. L. H. Bailey was elected president of the association for the coming term, and E. R. Lake and L. R. Taft were re-elected secretary and treasurer respectively.

National Congress of Horticulture

A meeting of the National Congress of Horticulture was held in joint session with the Pomological Society on Thursday afternoon. This association was formed last year as an adjunct to the parent society in order to offer a chance for the consideration of the commercial phase of fruit growing, something which is not provided for in the charter of the American Pomological Society.

James B. Morman, of the Treasury Department at Washington, was pres-

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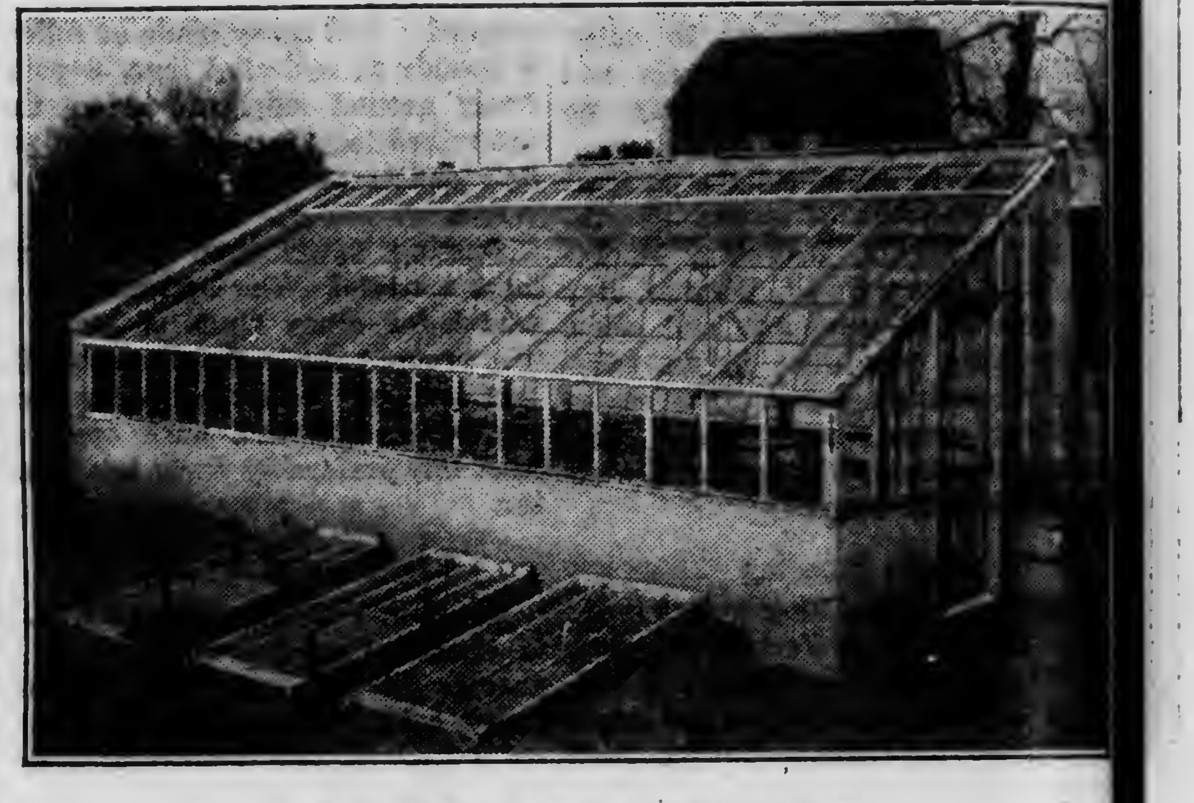
ent and discussed the Federal Farm Loan Act as applied to orcharding. There was much interest in this subject since it had been generally understood that the Farm Loan Board would not consider fruit orchards when placing a valuation on land upon which a loan had been asked. Mr. Morman explained that in general this was the letter of the ruling, but that the spirit of its application was broader than might appear from the wording. The extreme and often fictitious valuation which is placed upon orchard lands in some localities is not accepted as a true valuation upon which a safe loan may be placed. The productive value of land for other agricultural purposes is the only safe consideration. Successful orcharding is so much a personal matter, depending as it does upon the businesslike management of an individual, that an orchard has little intrinsic value apart from him. Since the Farm Loan Bank has nothing of the life insurance character about it, the agricultural value of the land must be considered as the loan enhancing the value of a farm, and fruit trees upon land is considered as valuation. However, the value of the valuation of the whole is increased accordingly.

National Apple-Packing Legislation

Mr. H. C. Hetzel, of the U. S. Bureau of Markets, in a short address urged an agitation for a national apple packing law. The chaotic condition existing today because of the lack of any uniform requirements makes intelligent packing for the general market impossible. Many states have no law whatever while others have good, rigid laws, but are placed at a disadvantage because the public is not sure of what it is buying unless it is acquainted with the requirements of a given state. Since the numbers, characters or names placed upon packages by different individuals and different states have no common meaning, they are meaningless to the ordinary buyer.

A national law defining and naming the different grades would standardize apple packages so that they might be bought intelligently in any market in the same way as are other goods. The greater confidence gained by the public would naturally increase the average retail price as the element of lottery would thus be removed in the buying of apples in packages.

The Bureau of Markets has prepared a proposed list of grades and specifications (very similar to the New York law) which it urges all individuals and horticultural societies to urge upon Congress so that we may have a national law which would control the packing of all apples offered for interstate shipment.



A Good Type of Small Greenhouse

STARTING CUCUMBERS IN GREENHOUSES

Market gardeners in the large forcing section at Irondequoit, near Rochester, are busy at work during January in planting seed of the cucumber Many of the gardeners there practi sowing the seed in flats, using well prepared soil for this work. The fla are placed then under proper conditions of moisture, heat and air, s that the seed grows rapidly and develops into a small plant quickly. A soon as the cotyledonous leaves ar fully developed and the tip of the fir true leaf shows between these rudimental leaves, the cucumber plant are lifted, carefully, and are tra planted into pots. A few of the me place them in small plots, at fir later to be transplanted into larg pots, while others transplant in fours or sixes and do not transpla again. As a general rule, the cucumber plant is not adapted to transplanting, but here is an incident where t method is practiced and it is carri on very successfully. Much depend on the care of the operator, the condition of the soil, the temperature, air etc. A greenhorn is not wanted i this particular work as he would ru many plants. This is work for a expert.—A. E. Wilkinson.

NOVEMBER VEGETABLE HINTS

November vegetable hints from th Pennsylvania State College are as follows:

Trenching of celery should beg soon after November 1, when there i a large amount to be stored.

Carrots should be lifted earlier tha other hardy root crops. Store in a damp, cool, well ventilated place wher they will not freeze.

Do not store late cabbage until ne essary. Burying is a troubleso method but it keeps the heads brig and crisp.

Have you enough soil stored fo starting early vegetable plants?

Do not store vegetables if you ca get a fair price in the fall. The co of storing, the risk, and the shrinka involved should be taken into consideration before storing.

Mulch the hardy onions with stra manure, or the like, after the grou has been frozen, to prevent altern freezing and thawing.

Apply liberal quantities of man to asparagus and rhubarb.

Rhubarb is forced very profitab during the winter. All roots are d up in the fall and allowed to fre before being forced.

If any part of the farm or gard needs drainage, now is the time to d that work.

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Congoleum Art Rug $4.85

Size, 6x9 Feet

78A8209 One-piece Congoleum Utility Rug, size 6x9 ft. These rugs lay flat without tacking and will not crack or curl. They look well and wear well. Can be washed clean with soap and water. Shipping weight, 23 lbs. Price, each $4.85

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The items here represent only a few sample values. There are 100,000 more in the pages of our catalog, "Your Bargain Book," which you have in your home. Get this book out today! It will help you make every dollar you spend go farther and show you the way to real ECONOMY.

Granite Art Square $2.65

Size, 6x9 Feet

78A8273 A 6x9 ft. Granite Art Square of Kural quality. One of the heaviest kinds made. Reversible rug splendid wearing qualities. Shpg. wt., 6¾ lbs. $2.65

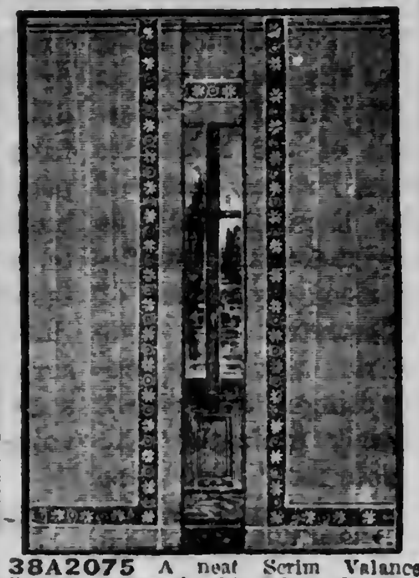
Other sizes and patterns shown on pages 780-794 of Your Bargain Book.

9x11-Velvet Rug $15.65

78A10602 A Seamed Velvet Rug of good weight, closely woven in a beautiful colored floral design with tan ground, green and red colorings. Size, 9x11 ft. Shipping weight, 23 lbs. Price, each $15.65

Other rugs shown on pages 781 to 788 of "Your Bargain Book."

Scrim Valance Curtain

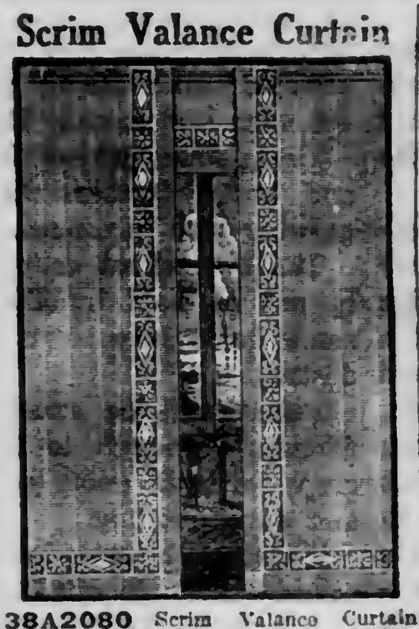


38A2075 A neat Scrim Valance Curtain, trimmed with 2-inch filet insertion and 2-inch hem. Each curtain 2 yds. 6 in. long, 22 in. wide; valance, 26x15 in. Already hemmed for use. Shpg. wt., 1 lb.... 79c

Nottingham Curtain

38A3003 Lambrequin Nottingham Curtain in one piece, divided at the bottom to look like two curtains with valance. Width, 60 inches. Length, 3 yards. Shipping weight, about 1¼ lbs. Price, complete 76c

Scrim Valance Curtain



38A2080 Scrim Valance Curtain with beautiful filet insertion. A Colonial effect. Each curtain 26 inches wide, 2 yards 6 inches long. Valance is 27x15 inches. Shpg. wt., 1½ lbs. Price, complete $1.15

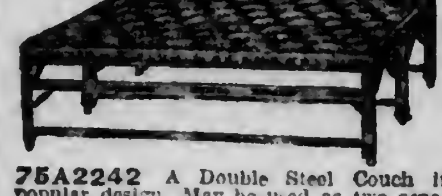
Tapestry Brussels $8.95

78A8490 A Seamless Tapestry Brussels Rug 6x9 ft. Comes in a rich floral design, well covered; has a medallion center of green and brown with delicate shades of tan and a border of red roses. Shipping weight, about 11 lbs. Price, each $8.95

White Enameled Crib $8.65

75A2625 White Enameled Steel Crib with drop side. 47 inches high, 4 ft. 6 in. long, 2 ft. 6 in. wide. A very strongly made safe crib priced very low. Has a link fabric steel frame spring. Shpg. wt., 85 lbs. Price, each $8.65

Double Couch Beds



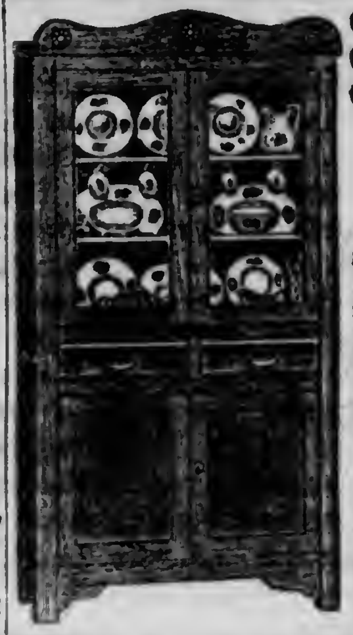
75A2242 A Double Steel Couch in popular design. May be used as two separate couches or as a double bed. Furnished with guaranteed Romelink fabric spring and a velvet cotton mattress. Each couch 5 ft. 10 in. long, 24 inches wide and 17 inches high. Shpg. wt., complete, 80 pounds Price...... $7.95

For Big Bargains in Home Furnishings See "Your Bargain Book"

Kitchen Chairs 85 Cents Each

75A1168 Good Strong Kitchen Chair, made of solid kiln dried hardwood, finished in golden oak gloss, perfectly fitted back base with brace arms. Height 36½ inches. Seat 15½ in. square. Shpg. wt., 12 lbs. Price, each.. 85c

Oak Kitchen Cupboard, Glass Panels $6.45



95A2606 Glass paneled kitchen cupboard made of selected wood with solid oak front, finished in glossy golden oak and very handsomely designed. The upper cabinet has china shelves. The two drawers are well fitted. There are two roomy drawers and a spacious cupboard underneath. It is 78 inches high, 38 inches wide and 15 in. deep. An exceptionally well made cupboard. Shipped from warehouse in Buffalo, N. Y. Shipping weight, 110 pounds. Price $6.45

White Lined Oak Kitchen Cabinet With Sliding Nickeloid Tray $16.30

75A898 Roll curtain front kitchen cabinet with many excellent features of construction. 71 inches high, 40 inches wide and 26 inches deep. Very strongly built of selected stock with light golden oak finish. The top cupboard has white enameled interior. It is fitted with disappearing roll curtain front, removable all-metal flour bin that holds 35 lbs.; 19¾x11¾-inch metal cutting board. Shpg. wt., 190 lbs. Price $16.30

Loose Cushion Rocker $6.95

95A2165 Loose Cushion Parlor Rocker, made of selected birch. The cushion is made of genuine hair covered with a mercerized plain green velour. Seat frame is very heavy with bolted claw feet legs. The seat is veneered. Measures 24½ inches wide, 20 inches deep and the back is 20½ in. high above the seat. Shpg. wt., 35 lbs..... $6.95

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$5.90 *Imitation Brown Spanish Leather Covering*

Reclining attachment and foot rest. Seat 21x17 in. with steel spring construction. Arms 4 in. wide, back 25 in. high from top of seat. Shpg. wt., 60 lbs.

75A56-100 Solid Oak, golden finish. Price........ $5.90

75A56-200 Mahogany finished birch Price....... 5.90

Hardwood Rocker $2.12

75A1165 Hard wood Rocker, golden oak gloss finish. Back 27¼ inches high. A well shaped solid wood seat 18 inches deep, 21 inches wide. Shipping weight, 20 lbs. Price, each..... $2.12

Dining Table and Chair

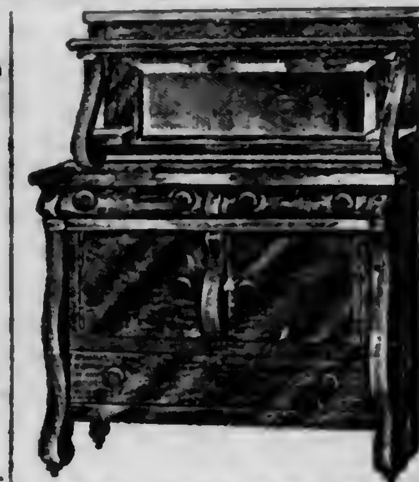
75A1111 Solid oak with top, back slat and panel of quarter-sawed oak in golden finish. Box seat covered with genuine black leather. Height of back, 22 in. Seat, 17½x15½ in. Shpg. wt., 14 lbs. Price, each $1.98

75A2435 6 ft. Extension Table with 42 inch top and 8 inch pedestal of latest design. Massive claw feet legs. Made of solid seasoned oak, golden oak gloss finish. Table extends very easily. Complete with leaves. Shipping weight, 165 lbs. Price........ $9.95

For Tables of other styles and finishes see "Your Bargain Book."

Nursery Chair

75A348 Nursery Chair made of woven splint wood, brown color. Fitted with swinging tray. Seat is 12 inches wide. All wood parts also brown. Splendid value. Shipping weight, 6 lbs. Price, each.... 95c



75A289 Colonial design Buffet 59 in. high of seasoned oak, golden finish, with beveled French plate mirror 30x10 in. Top of base 42 in. wide by 21 in. deep. Linen drawer 36x14x7 in. Cupboard 39x17x16 in. Shpg. wt., 180 lbs. Price, each.. $16.90

Oak Bedroom Set

$19.80 *Also Sold Separately*

Three pieces to match, all of selected material, fully guaranteed.

75A595 Neatly designed wash stand of selected plain oak. Top is 30 in. wide and 16 in. deep. Golden oak finish. Deep drawer measures 10¾x23x4½ in. The closet is 14¼ in. deep and has two paneled drawers. Shpg. wt., 65 lbs. Price, each..... $4.95

75A596 Dresser to match, of the same good quality. Has perfectly fitted drawers. Top measures 38x19 inches. Fitted with 24x14-inch beveled mirror. Has 2 large and 2 small drawers, nicely made and well fitted. Shipping weight, 115 lbs. Price, each..... $11.35

75A594 Solid Oak Bed, golden oak finish. Head and foot board all beveled construction. Extreme height, 55 inches. Furnished in the regular full width only, 4 ft. 6 in. wide. Shipping weight, 105 pounds. Price, each............ $5.65

Combination Offer

One of our biggest values. A bed, mattress and spring for $16.95. Also sold separately.

75A2259 White enameled steel bed with two-inch posts and 5/16-inch filled rods. Widths, 4 ft. 6 in., 4 ft. or 3 ft. 6 in. Shpg. wt., 95 lbs. Price........ $7.95

75A2305 Romelink wire fabric spring, guaranteed for 10 years. Has 56 helical springs and double riveted frame. Will not sag. Widths, 4 ft. 6 in., 4 ft. or 3 ft. 6 in. Shpg. wt., 40 lbs. Price, each........ $3.85

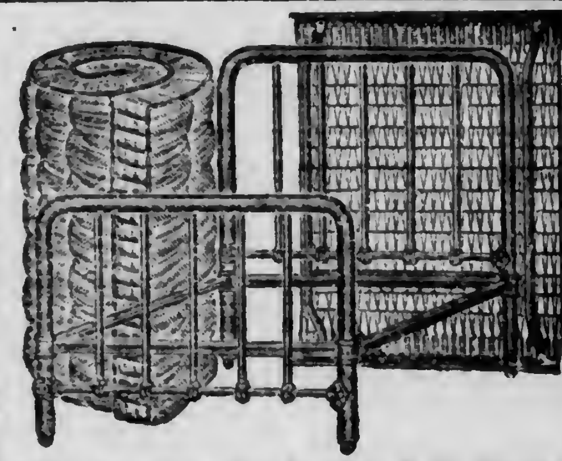
Mattress made of 44 lbs. of Canadian sea moss with heavy layer of new felted cotton on top. It is well tufted and covered with heavy ticking. Shpg. wt. of largest size, 54 lbs.

75A421-46 Size 4 ft. 6 in x 6 ft. 3 in. Price........ $6.10

75A421-40 Size 4 ft. x 6 ft. 3 in. $5.85

75A421-36 Size 3 ft. 6 in. x 6 ft 3 in Price $5.60

Be sure to state size of bed and spring.



Bed, Mattress and Spring **$16.95**

The Charles William Stores New York City

Farm Products Prices and Prospects

WHEAT PRICES AND PEACE

American farmers have been asked to expand their acreage of wheat, and as an assurance against loss if peace should intervene, Congress has given a guarantee of $2 per bushel for the 1918 harvest at primary interior terminal markets. But a question which has already been much discussed is the effect on wheat prices if peace should come within a year. The answer is clearly given in a published statement (Bulletin No. 10) of the U. S. Food Administration.

"This guarantee," Mr. Hoover explains, "does not apply to the 1917 harvest; and, while the United States Food Administration has developed a method by which, so long as the Food Administration lasts, the farmer may receive an assurance of $2.20 on the basis of the Chicago terminal market for his 1917 wheat, I would like to have it clear to every farmer in the United States that the Food Administration by law comes to an end with peace.

"So if peace should come between now and the 1918 harvest there will be a period in which no guarantees exist, and in which the price of wheat may fall much below present prices, due to competition from the more distant countries. Even if carried over 1917 wheat will not fall within the 1918 guarantee, and it must therefore be of prime interest to the American farmer to get his 1917 wheat into the market at the earliest moment."

This statement does not signify an expected early peace, but rather points out the risk of gambling on the continuation of the war. There is nothing for farmers to gain, but on the other hand, a great deal to lose, if peace should arrive, by withholding 1917 wheat from the market.

Thus it is plain that the government is incurring a great financial risk in guaranteeing the 1918 wheat price. Under favorable conditions, the crop will total about a billion bushels, and if peace should come within a year there will be no foreign market for at least 400,000,000 bushels of this wheat. The guarantee of $2 per bushel for 1918 wheat at primary interior terminal markets is binding until May 1, 1919. Should peace come before the 1918 wheat harvest is marketed and the vast stores of wheat in India and Australia be unloaded on the world's markets the loss to the government will probably be from $300,000,000 to $500,000,000 on the wheat guarantee. The United States government is therefore carrying the risk as to the 1918 crop instead of asking the farmers to do so.

CENTRAL PENNSYLVANIA
FARM NOTES

Weather conditions have been very unsatisfactory for getting farm work done in October, and on November 1 there are still many acres of potatoes in the ground and a good deal of unhusked corn standing in the field.

The ground has been frozen to the depth of an inch or more and two to six inches of snow has fallen in different sections of the county, but is practically all melted off now.

This year with its late spring and early frosts has more than ever demonstrated the value of the Silo as a means of preserving cattle feed.

Dairy farmers having siloes have been able to conserve to the fullest possible extent the food value of their frosted corn.

The scarcity of farm labor has helped to emphasize the value of the silo; for by helping each other, and by the use of machinery, farmers have been able to save the crop to an extent not possible under the old plan of husking the corn and saving the dry fodder.

Early-sown wheat is looking well and some farmers have their fall plowing well advanced.

The buckwheat crop was practically cut in half by the early frosts, some fields late sown being entirely destroyed.

Prices will be excellent for those fortunate enough to have secured a crop through good soil preparation and early seeding.

Turnips have yielded well and promise to help out considerably the shortage in the potato crop in the county, caused by rot and early frosts.

PRICE MAKING

Price-making is indeed one of the greatest mysteries of the daily life of the people. How are they made? Few know. The farmer insists that he has no part in the making of the prices of his own products, and therefore he feels he is habitually exploited. The city man complains he has to pay what is asked in town. The president of the Michigan Bean Growers' Association the other day suggested that the price paid for beans to the farmer should be fixed by a "disinterested commission" and not by supply and demand. The manufacturers of package goods feel that they have the right and should have the power to fix retail prices for their products and compel retailers to stick to them under penalty of law (Stephens bill); while the retailers who deal with the ultimate consumer, the man who names the price he will pay "or leave it," and thus in the last analysis is the one who fixes the price, knows he must adjust prices to conditions or to the purchasing power of the consumer or go out of business. There is only one price maker that ignores the law of "marginal utility," as it affects the consumer, and that is the Government acting through a price fixing commission and making prices supposed to suit both producer and consumer and pleasing neither.

Any such body's work is a pure guess. It has no scientific sanction and can have none since it can know no buyer's mind. Even $5 per barrel is too high for flour based on the purchasing power of some people; $50 per barrel would, under given circumstances, be none too high for some other people. Many people would gladly pay even more for flour rather than be wholly deprived of it; others would balk at paying $10 when other foods could be substituted.

The same law applies to the production. All guesses at "cost" by the Trade Commission and similar bodies are nothing more than guesses. Cost in 99 per cent of the cases is purely an individual matter, and being so is never the same in any two establishments or for any two men; even the average is something one could hardly figure accurately, and the amount would have only academic interest and no practical value if found. All such charts as some of our agricultural papers are printing to show farmers the profit and loss, say in making fat hogs or beef cattle, are purely tentative. They have no practical value to any given person; they mean nothing more than a practice "sum" given out by a schoolmaster; and would not hold good as to any two farms lying on opposite sides of the same road in the same township. Dr. H. E. Horton says: "Search of the literature of the United States, France, England and the Argentine Republic fails to reveal publications indicating publicists have had any clear conception of their problem. Germany has done some better, but not much, in approaching and handling the problem, and this while clearly indicating the proper method of solution." All these efforts by students are based on the academic theory of "standardization" which the present administration of the Agricultural Department has made a hobby and a fetish. There is no such thing as standardizing men even for running an automatic machine, though the modern paternalist professors in government are doing their best to make people think so in order perhaps to prepare for some other radical program, later. When we do arrive at a "standard man" who shall work on the basis of Government fixed prices and editors' charts of profit and loss, as in raising stock with stabilized prices for feed and fixed prices for the stock, we'll all go broke or be reduced to economic slavery; because it will be only a short time until one-half the workers occupying the better places and working under the better conditions and with better brains will starve out the other half who will not be able to make exchanges at all.—Editorial in *Price Current.*

NEW JERSEY TRADE NOTES

Thousands of bushels of windfall and wormy apples are wasted in New Jersey every year. This fruit can be used and should be demanded by housewives. Retailers have accustomed themselves to the requirements of "particular" customers and do not handle this grade of apples, as "there is no sale for it." It can only be handled satisfactorily by quick sales. Some stores have advertised in advance, and thus been able to dispose of large quantities quickly. Really good apples often go to cider presses for from ten to twenty cents a bushel, which if consumed promptly would take the place of other more costly food.

Under the present old-time grocery store business, cheap food cannot be handled advantageously. It is one reason why so much good food wastes on our farms. The costs of credit, delivery and "making a show" are too much for cheap goods. Many retail storekeepers would like to sell out if they could afford to and go into some other business. They can't afford to sell out because of the credit accounts owing them.

It is most assuring at such a time as this to realize that trade customs are being laid aside and the "public in general" considered first. Flour mills in New Jersey are selling their products in quantities as low as five pounds. Retail stores are selling wholesale quantities for cash at wholesale prices. Wholesale houses and manufacturers are selling direct to consumers.

Out of all the criticism leveled at wholesale and retail dealers, producers and consumers, a few rather conspicuous faults are easily located. The producer does not grade and pack his products so that distributors can handle them economically. Wholesalers take advantage of the confidence reposed in them and of the nature of the business they are in. Retailers fail to sense the spirit of the times and foster careless buying rather than thrift. Consumers demand increased service, scorn market knowledge and answer the call of Pride instead of the voice of Thrift.

CONDENSED MILK TO RUSSIA

Owing to a scarcity of wholesome milk in Russia, the American Red Cross has purchased a million pounds of condensed milk for the babies in that country. Shipment will be made immediately. Another million pounds will be shipped next month. The money for this milk was appropriated on the receipt of urgent cables from the Red Cross Commission to Russia.

Reports from the Commission have stated that nothing could be more heartening to many of the Russian people than providing nourishment for their babies. It is probable that further supplies will be made, to the limit of transportation facilities. In subsequent shipments each can of condensed milk will bear a label in Russian reading: "From Free America to Free Russia."

NEW PRODUCE REGULATIONS

Eliminating unjustifiable sales from one wholesaler to another, stopping speculation in "futures," and having butter, cheese, eggs and poultry handled in the most direct route from producer to consumer, are the chief objects at which the new produce rules of the Food Administration's licensing system are aimed.

One of the fundamental purposes of these rules and of the entire system of licensing is to get the largest possible share of the consumer's dollar to the producer. In these words George E. Haskell, dairy expert of the Food Administration, sums up the means by which the farmer will be benefited.

The licensing system which went into effect November 1 does not apply directly to farmers or farmers' organizations and is directed chiefly at wasteful and unfair practices in the handling of food products between the producer and the consumer. But with such practices stopped or diminished, the producer is expected to benefit in several indirect ways. One is a greater public demand as the result of reasonable prices to the consumer made possible by a less expensive distributing system. Another benefit will be the confidence of the producer himself resulting from the fact that his products are being handled in a distributing system under government supervision.

What kind of music will there be in *your* home this Christmas?

CHRISTMAS AND MUSIC are inseparable. You cannot think of Christmas without thinking of music—all kinds of good music. What kind of music will there be in *your* home this Christmas? What instrument and what voices will entertain you?

Have you ever stopped to realize that all voices, and all musical instruments, excepting one, have their limitations? As wonderful as a piano is, it can give you only piano music; as beautiful as an organ is, it can give you only organ music; as marvelous as the human voice is, it can only sing. It is the same with the violin, the cornet, the accordion or any other instrument which you might have in your home or might consider purchasing. These are excellent in their way, but we are sure you will agree that none of them is completely satisfying.

It is different with the New Edison Diamond Amberola. It has no musical limitations, for it is all voices and all instruments in one and it brings into the home all kinds and classes of music, from the greatest of operatic numbers sung by the most famous of singers to the simplest of popular and comic songs sung by the cleverest performers in their line; from the performances of great military bands and symphony orchestras to the snappy music of the ever popular banjo.

The New Edison Diamond Amberola is not an instrument that you must forbid the children touching for fear of putting something out of order. Even a very young child can readily learn to operate this marvelous instrument, for it is simplicity in itself and is not readily put out of order, and the Blue Amberol records are almost unbreakable and unwearable. With the Amberola you do not even have to bother to change needles. There are no needles to change. Instead of needles Mr. Edison uses a GENUINE DIAMOND, ground and polished to fit perfectly in the grooves of the record, and so perfectly round and smooth that it has no effect on the record. As you know, a diamond never wears out. To operate the Edison Amberola all that is necessary is to put on a record and lower the reproducer so as to bring the diamond stylus (reproducer point) into contact with the record. Besides keeping the Amberola wound up and oiled, there is nothing else to do.

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It is Mr. Edison's wish that you hear his Diamond Amberola in your home. In order that Mr. Edison's wish should be fulfilled, we will place a New Edison Diamond Amberola and a choice selection of Blue Amberol records in your home for three days. Play them to your heart's content, invite your friends in to enjoy the music with you. At the end of three days tell us that you want to buy the instrument and records for cash, that you want to buy them on terms, or that you do not care to purchase at that time and request us to call for the Amberola and the records. We leave it entirely to you whether you keep the instrument and records or whether you send them back. Whatever your decision, we shall consider the matter at an end. You will be under no obligation whatever. We will be the ones to feel obligated to you for permitting us to place the instrument and records on trial in your home. Thousands of families throughout America are enjoying these free trials because of Mr. Edison's desire that no one should miss hearing his marvelous invention. Why not you? You are just as much entitled to the opportunity as anyone else, and there is no reason why you should not take advantage of it. When requesting your free trial, please use the coupon at the bottom of this page.

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So that you may have an idea of the many wonderful selections to be found in the Blue Amberol Record Catalog, we have picked a few here and there and they're printed below. Look them over. You are sure to find many of your favorites.

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Angels from the Realms of Glory
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Birthday of a King
Hail! Hail! Day of Days
Hark! Hark! My Soul
It Came Upon the Midnight Clear
Night Before Christmas
Old Jim's Christmas Hymn
O Little Town of Bethlehem
Once in Royal David's City
Ring Out the Bells for Christmas
Star of Bethlehem
Sweet Christmas Bells
When Christmas Bells are Ringing

SACRED
Ave Maria
Beautiful Isle of Somewhere
My Ain Countrie
Rock of Ages
Face to Face

QUARTETS
The Bridge
Come Where My Love Lies Dreaming
Darling Nellie Gray
Maple Leaf Forever
Massa's in de Cold, Cold Ground
Laughing Song
The Rosary

HAWAIIAN
Aloha Oe (Farewell to Thee)
Kamehameha March
Medley of Hawaiian Airs
Moani Ke Ala
Waialae (Waltz Song)

BANDS
At the Mill March
Battle of the Marne—Descriptive
Glowworm
Humpty Dumpty Rag
In the Clock Store—Descriptive Fantasia
Jolly Coppersmith—with Anvil, Singing and Whistling
My Old Kentucky Home Fantasia

INSTRUMENTAL SOLOS
I Hope I Don't Intrude, Bells
King of Air March, Xylophone
Kiss Waltz, Saxophone
Medley of Southern Airs, Banjo
Old Black Joe, Piano

DANCE
Carnival One-Step
Destiny Waltz
Good-Night Waltz
Money Musk Medley Virginia Reel
Oh, You Silv'ry Bells Medley Two-Step
Stop! Look! Listen! Fox Trot
Leg of Mutton One Step

GRAND OPERA
Faust—Air des Bijoux
Pagliacci—Prologue
Rigoletto—Caro nome
Trio from Faust
Bridal Chorus from Lohengrin

VOCAL DUETS
All Aboard for Blanket Bay
As We Parted at the Gate
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Crochet Questions Answered

Coin Purse---Hand Bag

"Please tell me where I can get in touch with some store or firm that handles crochet and tatting work, or families that buy for their private use.

"And will some one give picture and instructions for crocheting a pretty coin purse or hand-bag and a pretty yoke."—Pennsylvania Farmer Reader, Bloomsburg, Pa.

Send your name and address, and we will endeavor to put you in touch with mediums for disposing of your needlework.

We give herewith directions for two coin purses, and will give you a yoke design later.

Meaning of Terms Used in These Directions

Chain Stitch.—(Abbreviation, ch). With a loop on your hook, put your thread over the hook and draw it thru the loop. To make a chain repeat this stitch until you have the length required for your foundation.

Slip-Stitch.—(Abbreviation, sl st). Insert your hook thru a stitch, put the thread over the hook, draw thru the stitch in which hook is inserted and also at the same time thru the loop on the hook. This stitch is sometimes used when it is necessary to go from one part of the work to another a short distance away. It saves breaking off the thread and starting over again at the other place.

Single Crochet. — (Abbreviation, sc). Insert your hook in a stitch, put your thread over it, draw the thread thru the stitch in which hook is inserted, thread over hook again, and draw thru both stitches on the hook.

Double Crochet. — (Abbreviation, dc). Thread over hook, insert hook in stitch, thread over again, draw thread thru stitch in which hook is inserted, thread over again, draw thru two of the three loops on the hook, thread over, draw thru remaining two loops.

Picot.—Ch 4, insert hook down thru last sc under the two threads at side of stitch, thread over and draw thru. Or, if preferred, picots can be made by making a chain of 3 or 4 st, and continuing with the sc, but the method described first makes them a little more firm.

Small Crochet Purse

The material used in both of the two purses directed herewith is cordonet crochet cotton, No. 15, one ball for both. Use a steel hook, as fine as will carry the thread smoothly; No. 11 is a good size for this thread.

Wind thread 15 times around a small pencil, then slip off.

1st Row.—Ch 3 to take the place of 1 dc; 25 dc in ring, join with sl st (slip stitch); dc mean double crochet.

2nd Row.—Ch 3 (ch means chain stitch), dc in next dc; * ch 1, dc in each of next two dc; repeat from *, making three clusters of 2 dc each; join.

3rd Row.—Ch 3, dc in each dc, and 2 dc in each space between cluster, making 52 dc in all, always counting the 3 ch as 1 dc; join.

4th Row.—Ch 3, dc in next dc, * ch 2, dc in each of next two dc, repeat from *, making 26 clusters in all; join.

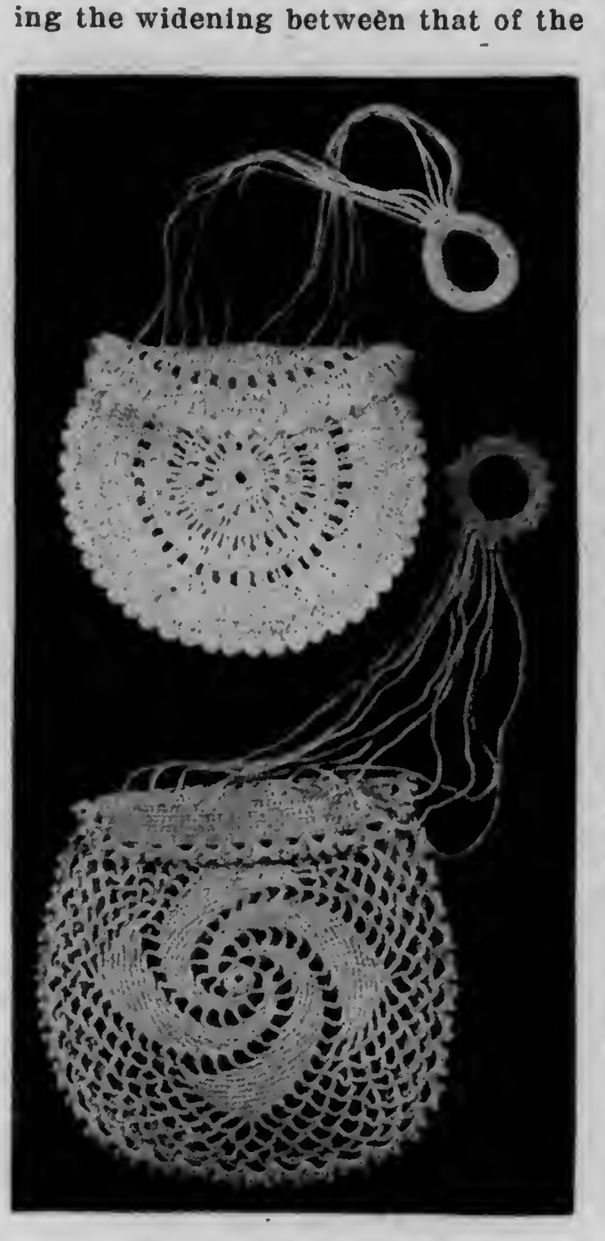
5th Row.—Ch 3, dc in each dc, and 2 dc in each space, making 104 dc in all; join.

6th Row.—Ch 3, dc in next dc, * ch 2, miss next dc; dc in each of next two dc; repeat from * until there are 27 clusters of 2 dc each; ch 3; finish row with 1 sc (single crochet) in each dc, making 23 dc in all. Ch 3 at end.

7th Row.—Dc in each dc, and 2 dc in each space until the 3 ch of preceding row is reached; then 3 ch, 2 sc under 3 ch, and 1 sc in each of next 23 sc; 2 sc under 3 ch at end; ch 3.

8th Row.—Dc in each dc, widening in every 15th dc by putting 2 dc in same stitch. There should be widening in all rows in order to keep the work flat. When 3 ch is reached, ch 3, 2 sc under 3 ch of preceding row, ch 3, 3 sc in next 3 sc, miss 1 sc,sc in each sc until fourth from opposite end is reached; then miss 1 sc, sc in next 3 sc, 2 sc under 3 ch, ch 3.

9th Row.—Dc in each dc, widening six times as in last row but bringing the widening between that of the preceding row. Finish row same as last row.



Crotchet Coin Purses

Reverse Side of Purse.—Make the reverse side of this bag the same as the one just finished until you reach the sixth row. Finish this row entirely around the clusters of 2 dc, with 2 ch between each, the same as the first part of the row. Join at end with a slip stitch.

7th Row.—Ch 3, and make entire row of dc (1 in each dc and 2 in each space); join.

8th Row.—Ch 3, dc in each dc, widening eight times around row, making the widenings at as nearly equal distances apart as possible; join.

9th Row.—Same as 8th, bringing the eight widenings between those of preceding row. Join.

Flap.—Work as follows: Turn and ch 3, dc in next dc; * ch 2, miss 1 dc, dc in each of next two, repeat from last *, until there are fifteen clusters of 2 dc each; turn, ch 3, dc in each dc, and 2 dc in spaces; turn, ch 3, dc in each dc. This finishes the flap. Break off thread and fasten.

Place the front side against the back one, with upper edge close up under flap, making sure to have right sides of both pieces turned out, and with front side next to you (the side with straight edge is the front). Beginning at left side close up to flap, join the two pieces by working sc thru both pieces at once, taking up both upper threads of a dc on the front and the same in a corresponding dc on the back. Continue working around, taking each dc on both pieces, and working sc until the flap is reached, then work across the straight edge of front piece (under flap) with sc in each sc. When opposite end is reached make little scallops on the edge as follows:

Sc in first sc on edge, * ch 3, 2 from last. Repeat from * to straight dc in same stitch with sc, sc in third edge at top, then sc in each sc across top. Turn at end and work back across top once more in sc. Break off thread. Work the little scallops around the flap the same as on the body of the purse, except that you make one in every fourth sc instead of every third sc. Make three scallops on each end of flap. It is necessary to begin the scallops at the left end of flap, with front toward you, in order to have them come right side out with lower part.

Wet the purse to shrink it, draw the straight edge closely up under the flap, and let it lie flat until dry, then run in the cords. The first cord (next to the ends) should run thru the first space of the row of spaces in the flap at end. The other cords should run thru the spaces between the dc's, exactly opposite, when flap is turned up, to the places where they are fastened underneath on straight edge. This edge should be divided into spaces as nearly equal as possible for the ten ends of cords. Study of the illustration will be a help in placing the cords.

Finish with a ring made by making sc over a bone ring until it is covered. Join with slip stitch, and fasten to cord thus; Sc in loop of first cord, sc in next sc on ring, sc in loop of next cord, etc., repeating until all the loops are taken up. Finish the ring with an sc, making a picot in every fourth sc if desired, or you may make it plain.

Openwork Purse (Second One)

This purse starts with a small ring in the center made by winding the thread ten times around a small pencil, then slipping off and making 15 sc's over the ring thus formed. Join the last sc to the first one with a sl st.

1st Row.—Insert hook under both threads of the sc, * ch 7, sc in third sc of ring; repeat from * three times, fastening the fourth 1 ch loop in the twelth sc of ring.

2nd Row.—Ch 7, then missing the remaining sc's on the ring, make five sc in first 7 ch loop; *, ch 7, 5 sc in next loop. Repeat from last * twice, making four clusters of 5 sc's. * Ch 7, 4 sc under next 7 ch (just before the 5 sc), sc in each of first three of the 5 sc, taking up both upper threads each time. Repeat from last * three times. * Ch 7, 4 sc under next 7 ch, 5 sc in next five of 7 sc. Repeat from last * three times.

Next Row.—Make the same, except that you take up 7 sc instead of 5. In next row take up 9, and continue working in the same way, increasing the number of sc in each cluster by two until there are 23 sc after the 4 sc under the 7 ch, or 27 sc in all in each cluster.

In the next row *, ch 7, sc under next 7 ch loop, ch 7, miss 2 sc, then sc 1 inch of next 23 sc, always taking up both of the upper threads of the

sc's. Repeat from last star on each figure.

Next Row.—* Ch 7, sc in first loop, ch 7, sc in second loop, ch 7, miss two sc, sc in each of next 19 sc. Repeat from last * on each figure.

Next Row.—* Ch 7, sc in next loop, ch 7. Now, instead of an sc in next loop make an sc in second stitch of loop, taking up two threads of stitch. Ch 7, sc in fifth stitch of same loop; ch 7, sc in next loop; ch 7, miss 2 sc, sc in each of next 15 sc. Repeat from last * on each figure. This adds an extra loop in each cluster making five in each.

Next Row. — Do not widen the loops, making one loop in each loop of preceding row, and sc in each of 11 sc. There should be six loops in each cluster.

Next Row.—Make one loop in each loop of preceding row and 7 sc in 7 sc. There should be seven loops in each cluster.

Next Row.—Widen in fourth loop of each cluster as described above, making seven loops in each cluster in this row, and 3 sc in sc of preceding row.

Next Row.—Make ten loops in each cluster of loops, and 1 dc in center of each 3 sc.

Next Row.—Work entirely around in loops of 7 ch without widening.

Next Row.—Work to center of first clump of loops, widen in the center loop as before, exactly above last widening. Continue working with loops of 7 ch to center loop of next cluster. Widen as before, and finish this row in loops without widening again. When first widening is reached, work across to second widening with plain loops. After making sc in second widening, turn, make 3 sl st in last three stitches of last loop made, which brings the thread to center of loop. Now *, ch 4, sc in next loop. Repeat from last * nine times, thus making ten loops of 4 ch acros the top. After the tenth loop, ch 1, turn, 4 sc in loop of 4 ch, and 1 sc in each sc between loops. Turn at end after making 1 ch, then missing the first sc at end make 1 sc in sc of last row. Turn again at end with 1 ch, and work back and forth until there are ten rows of plain sc. Always ch 1 to turn, and always miss first sc when starting back, this for the flap of the purse. Break thread and fasten.

Other Side of Purse.—Make the same as the side just finished, except that in the last row around the body of the purse, when you have worked to the first widening, instead of working to the next corner in loops of 7 ch, as in the first side, do it this way: * Ch 4, sc in next loop, and repeat to the next corner or widening. This makes this side one row shorter at the top than the other side.

Now lay this side against the other one, with its straight edge up under the flap on the first side, and without breaking the thread insert the hook in the first side just at the base of the first loop on the edge below the flap. It should be at the top of the widening on that corner. Put thread over hook and draw thru both stitches on hook. This should bring the corresponding loops together all around both pieces. Now * ch 7, sc in next loop, taking up one on both front and back at the same time. Repeat from last * until the peices are joined clear around the top edge. Be sure to have both pieces right side out before joining. The last joining loop should end at the base of the loop at the first corner, corresponding to the one at the opposite corner where the joining commenced.

Work across the top of the under piece with 4 sc under each 4 ch, and 1 sc in sc between loops. Now work around the joined part with 2 sc, picot, 3 sc, picot, 2 sc in each loop and 1 sc in sc between. When flap is reached work around it with loops of 6 ch, making three loops at each end and one in every fourth sc across top. Turn at each end and work with sc's and picots the same as around the purse. This will bring the edge on the flap right side out with the edge on the purse. Break thread and fasten.

Cords.—Make five chains of about 175 stitches each, being careful to have them the same length. Leave six or seven inches of thread at each end of the chains for threading into a needle to sew onto the purse. Sew very firmly to the upper edge of the under piece close to one end. Pass the cord back thru the first space of 4 ch below flap at this end, bring it back thru next space, thread this end in needle, and sew to edge of under part just opposite to the space where it was brought thrue the other piece. Sew first end of next cord a short distance further along edge than last end of first cord, or opposite the third space below flap. Pass this cord back thru third space, then bring it back thru fourth space, and sew to under piece. Attach the other cords in the same way. The five cords will fill the ten spaces just below the flap. Draw the cords all out to their full length thru the flap.

The Ring.—For the foundation use, a bone ring or make one of the thread by winding thread 25 times around the finger. Fill the ring with sc, join with sl st, then sc in loop of first cord, sc in next sc on ring, sc in loop of next cord, sc in ring. Repeat until all the loops are taken up, then finish ring with sc, making a picot in every fourth sc. Or if desired, you can make the ring plain.

SOME LATE PICKLES

Pickled Onions. — Select small onions and peel but do not cut them. Place in wide-mouthed bottles and sprinkle some spices among them, using 1 ounce of whole pepper, 1 tablespoon of mustard seed and a few coriander seeds to each quart of onions. Cover with cold vinegar and cork. If the onions absorb the vinegar, add more to keep them covered.

Pickled White Cabbage.—Chop fine 4 large crisp heads of cabbage and 1 quart of onions. Pack in alternate layers in a jar, sprinkling a little salt between each, and let stand over night, then drain. Mix well together 2 quarts cider vinegar, 2 lbs. brown sugar, 2 tablespoons each of ground mustard, black pepper, cinnamon and celery seed and 1 tablespoon each of allspice, mace and alum. Let boil up once and pour over the cabbage and onions. Let stand over night, drain, heat the liquid and pour over the cabbage again. Repeat this process for the third time and the fourth morning put all together in a large porcelain kettle, bring to a boil and boil 5 minutes. When cold pack in small jars and seal.

Cauliflower Pickle.—Trim and cut up cauliflower, boil in slightly salted water until tender. For every head of cauliflower allow 2 tablespoons ground mustard, 1 tablespoon flour, 1 teaspoon salt, ½ cup brown sugar and a little turmeric powder with cider vinegar enough to cover. Let this mixture come to a boil, then pour over the cauliflower in cans or jars and seal while hot

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Nov. 12, 1917.

Important Food Administration Notice.—The United States Food Administration announces that the following rule appears in the regulations, applying to licensed handlers of perishable food products: "The licensees shall quote, buy and sell potatoes only by the pound." As all commission men and wholesale potato dealers are required to be licensed, this means that it is illegal to quote, buy or sell potatoes on any other basis than by weight hereafter. Transactions contracted on the basis of the hundredweight will be interpreted as transactions on a pound basis, by the Food Administration.

The embargo which was placed against potato shipments to this market by the Reading Railroad, as was reported in these columns last week, is still in force as the demand has not been sufficient to reduce the accumulations or sufficient to warrant its withdrawal. There were still a total of 249 cars of potatoes standing on track in the delivery yards of the Pennsylvania and Reading Railroads at the opening of business Monday morning. Movement is light, with practically no change shown over last week's quotations. Best Pennsylvanias sell at $2.50 to $2.75 per cwt., which is equivalent to $1.50 to $1.65 per bushel, and New York State stock sells at $2.33 to $2.50, equivalent to $1.40 to $1.50 per bushel. Nearby farmers continue to haul in liberal supplies and these are selling at 75 to 90 cents per basket of about 33 pounds in weight.

The sweet potato market is very dull, caused by the generally extremely poor quality of the offerings; nearly all of them showing effects of cold weather, some being very badly chilled. Prices are showing a very wide range, running in most instances from 15 to 50 cents a basket, with some showing fair quality up to 75 cents. Strictly fancy house sweets would exceed these quotations and would probably bring around $1 a basket, but none such are now being offered. Eastern Shore sweet potatoes are moving slowly at $1.50 to $2 a barrel for primes, with culls bringing 65 cents to $1 a barrel.

Vegetables

While the offerings of dried beans are not heavy the market is a little easier than last week and choice hand-picked marrows are now selling at $9.40 to $9.50, with pea and medium ranging from $9 to $9.25 and red kidney at $8.50 per bushel. Loose winter beets are firm at $2.75 to $3. Cabbage shows another big decline after the drop of $12 to $15 reported last week, and Domestic is now selling at $15 to $20, with Danish at $22 to $26. Altho the embargo on cabbage by the Reading Railroad has been in effect several days, there are still about 150 cars on cabbage on the track here and even at the big decline the movement is very slow and prices are favoring buyers. Cauliflower is fairly plentiful, the demand is active and market higher, ranging from $2.25 to $2.35 per crate. Fancy celery moves steady at 25 to 50c bunch. Good eggplants continue scarce and bring good prices, ranging from $3.50 to $4.50 per crate. Horse radish is selling from $4.50 to $8 per barrel. Onions are very dull and weak unless strictly fancy and these are held about steady. Most stock from Massachusetts, Ohio, Indiana, and New York is being sold from $2.50 to $2.75 per 100-pound sacks; with No. 2 onions ranging from $1.25 to $1.50. Parsnips are steady at 50 to 60 cents a Jersey basket. Pumpkins are plentiful and selling at low prices, ranging all the way from $3 to $8 per 100. Scullions are quite plentiful and range from $1.25 to $1.50 per 100. Nearby peppers are very irregular in quality and show a wide range, sales being made all the way from 25 cents to $1.25 per basket. Spinach shows no change, selling mostly at 35 to 40 cents a basket. Altho there are still a few nearby tomatoes arriving, the quality is so poor that quotations are nominal. Mushrooms are in fair supply, but the market is active at $1.25 to $1.75 per 4-pound basket with a few extra fancy selling as high as $2. Turnips are plentiful and the market steady, white ranging from 30 to 40 cents per ⅝-bushel basket; Yellow Aberdeens, 40 to 60 cents; Pennsylvania yellow turnips, 75 to 90 cents. Rutabagas are in light supply and steady at $1.25 to $1.75 per cwt. Watercress is in more liberal supply, with demand and movement active at 1½ to 2 cents a bunch.

Fruits

Offerings of apples are not heavy for the season, averaging from 12 to 16 cars per day. There has been a good demand and movement on the ordinary to good grades, with prices ruling about steady and unchanged from last week. Strictly fancy apples have been in light supply and when here are moving out quickly at fancy prices. Sales this week have been made at about the following range: Baldwins, $2.75 to $5; extra fancy do., $5.50 to $5.75; Ben Davis, $2.50 to $3.75; Black Bens, $2.50@$4.50; Black Twig, $2.75 to $5; Gano, $2.50 to $3.75; Greenings, $3 to $5; Grimes Golden, $3.50 to $6.25; Hubs, $3 to $5; Kings, $3.50 to $5.50; Spys, $3.50 to $5.50; Starks, $3 to $5; Staymans, $3.50 to $5.50; Rome Beauty, $4 to $6; Jonathans, $4 to $6.25; York Imperials, $2.50 to $4.50; Winesaps, $2.50 to 5; Odd, unclassified and mixed varieties, $2 to $4. Western box apples are selling about as follows: Spitzenburgs, $2 to $3; Staymans, $1.75 to $2.40. Bulk apples are in light supply and range from $1.50 to $1.75 per cwt.

Pears are in light supply and are firm for best grades. Bartletts bring $1.25 to $1.75 per bushel, and $5 per barrel. Seckels, $2 to $3; barrels, $8 to $9. Kieffers, $2 to $2.50 per barrel. There have been no quinces on the market so far this week. This week will practically see the windup of the grape season, and it looks like a weak finish on account of so much of the stock being frosted. Concords are now selling at 40 to 55 cents a jumbo basket; 18 cents per 4-quart basket, and 14 to 15 cents pony basket. Demand for cranberries is a little more active and the market is firm and higher on fancy large varieties. Barrels are selling at $8 to $9.50, and crate $2.50 to $3.50. Chestnuts are in light supply and the market firm and higher, ranging from $6.50 to $8 per bushel.

Poultry

The live poultry market is ruling firm on all fine, desirable size stock and under a demand which is fully equal to the rather light offerings. Quotations are about as follows: Fowls, 20 to 24 cents, as to size and quality; roosters, 18 to 19 cents; spring chickens, not Leghorns, 20 to 23 cents as to quality, with Leghorns bringing 19 to 21 cents. Ducks, 19 to 22 cents; spring ducks, 19 to 23 cents. With the holiday season approaching turkeys have taken quite a spurt and are now selling at 28 to 32 cents, with guiness weighing 1½ to 2 pounds each 90 cents to $1; smaller sizes, 75 to 80 cents. Old guineas, 60 to 65 cents a pair. Pigeons, 20 to 28 cents a pair.

Dressed poultry has been meeting an active demand, particularly fine desirable size chickens, which have been in light supply and also turkeys. Prices are ranging as follows: Fancy turkeys, 30 to 34 cents; common, 25 to 27 cents. Fancy, heavy fowl, 25 to 27 cents; smaller size, 22 to 24 cents. Old roosters, 21 to 22 cents; roasting chickens, fancy heavy, 25 to 26 cents; smaller sizes, 22 to 24 cents; fancy broilers, 33 to 36 cents; small size, 28 to 30c; ducks, 26 to 28 cents.

Eggs

Fancy new laid eggs are scarce and cleaning up promptly on arrival at good prices, but the under grade eggs are plentiful and meeting an indifferent demand at irregular values. Current receipts are now selling at 46 cents with firsts at 47 cents. Seconds range from 41 to 43 cents. Selected carefully graded, well candled eggs are jobbing out at 55 to 56 cents a dozen.

LANCASTER PRODUCE

Lancaster, Pa., Nov. 12, 1917.

Altho there was a glut of eggs on the market this morning, prices were held at 55 cents a dozen. Sales were not numerous and hundreds of dozens of eggs were carted back home by the farmers. Butter was advanced to 55 cents. Potatoes sold for as high as $1.60 a bushel despite declines in adjoining counties.

Butter and Eggs.—Creamery butter, 52@55c per lb; country butter, 50@55c; fresh eggs, 55c per dozen.

Poultry.—Dressed old chickens, $1.25@1.50; dressed young chickens, 75c@$1; live chickens, $1.50@2 per pair; live old chickens, 18 cents per lb.

Vegetables and Fruits.—Lima beans, 18c per pint. Celery, 5@10c bunch. Lettuce, 5@12c head. Cauliflower, 15@20c head. Eggplant, 5@10c each. Pickles, 20@35c per 100. Cabbage, 2@8c head. Sweet potatoes, 30c ½ pk. Potatoes, $1.25@1.60 per bu; do., 18@24c ½ pk. New turnips, 15c ½ pk. Spinach, 5c ½ pk. Parsnips, 5c box. Tomatoes, 10@12c box. Grapes, 20@25c basket. Apples, 20@30c ½ pk. Pears, 15c ½ pk.

Grain Market.—Dry wheat, $2 bu; milling wheat, $2; damp wheat, $1.75; corn, $2; rye, $1.60; oats, 65c; No. 1 timothy hay, $20 per ton; straw, $9; wheat straw, $10.

YORK PRODUCE MARKET

York, Pa., Nov. 12, 1917.

There was a large attendance at the city markets on Saturday. Earlier in the week the number of farmers was small owing, doubtless to the push of work. Prices were unchanged as a rule, except eggs and apples were stronger. Potatoes were off. The demand was good, or rather the inquiry, but from the paper accounts buyers were led to believe they would get them at around $1 while the farmers as a body think $1.40 to $1.50 is fair and will hold yet unless these prices are obtained.

Eggs.—48@52c per dozen.

Butter.—Country, 45@48c lb; separator, 48@52c lb. Milk, 10c quart.

Poultry.—Hens, 18c lb; dressed, 60c@$1 each.

Vegetables. — Potatoes, 12@20c ½-pk; $1.10@1.40 per bushel. Cabbage, 3@12c head. Lettuce, 3@6c head. Radishes, 5c bunch. Onions, 10@12c bx; 25c ½ pk. Lima beans, 25c qt. Soup beans, 32@40c qt. Celery, 5@12c stalk. Tomatoes, 10c bx. Turnips, 10@15c ½ pk. Eggplants, 4@8c. Corn meal, 10@12c qt.

Fruit.—Apples, 10@35c ½ pk. Pears, 3@10c bx; 15c ½ pk.

Retail Grain Market. — Wheat, $2.25; corn, $2.25; oats, 90c; rye, $1.50; bran, $2.10 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $2.07; corn, $1.90; new, $1.40; oats, 65c; rye, $1.25; bran, $35@38 ton; middlings, $59.

NEW YORK PRODUCE

New York City, Nov. 12, 1917.

Butter is quiet and tone easy. Cheese market steady to firm. Fresh eggs scarce. Potatoes in liberal supply and trade dull. Vegetables plentiful and prices weak. Apples in heavy supply and move sowly.

Butter.—Creamery, extras (92 score), per pound, 44½c; higher score, 45@45½c; thirds to firsts, 44c; state dairy, 36@44c; ladles, 38c.

Eggs. — Fresh gathered extras, 51@52c; extra firsts, 49@50c; nearby white, fine to fancy, 72@80c; ordinary to good, 60@70c; browns, 52@60c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 38@40c; old roosters, 19c; squabs, $2.75@6.50 per dozen. Spring ducks, per lb., 26c; turkeys, fresh killed, 30@35c.

Vegetables and Greens.—Beets, bbl., $2.50@3. Onions, per 100-lb. bag, $2.25@3.50. Potatoes, Jersey, $3.25@4.25 bbl; state and western, $4.25@4.50 per bbl. Carrots, $1.50@2.25 bbl. Peppers, bbl., $2.50@5.

Apples. — Wealthy, $4@5.50 bbl; McIntosh, $3@7; Jonathan, $4@7.50; York Imperial, $4@5; Twenty Ounce, $4@5.50; King, $4@5.50; Baldwin, $4@5.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., Nov. 12, 1917.

Beef Cattle.—The general market ruled steady with supplies of desirable stock moderate. Demand, however, was only fair.

Steers, best, $12.50@14; fair to good, $11@12.50; common, $9.50@11; bulls, $6.25@8.50; extra choice higher; cows, fat, per lb., 7½@8½c; extra choice higher; medium per lb., 6½@7½c; ordinary, per lb., 4½@5½c; calves, exceptional lots, $15.50; a few as high as $16; good to choice, $13@14.50; medium, $10@11.50; common, $7.50@8.50; Tennessee and southern, $7.50@13.

Hogs.—The market ruled firm and slightly higher, due to moderate offerings, a fairly active demand and slightly stronger advices from outside points. Quotations for best western, $19@19.50.

City Dressed Stock. — There was little change to note in this market. Demand continued slow, with buyers operating only as impelled by actual necessity.

Steers, 15@21c; heifers, 14@18c; cows, 10@16c; calves, 21@22c; southerns and barnyards, 16@18c; country dressed, 19c; do. extras, 20c; sheep, 21c; do., extras, 22c; lambs, 26c; do., extras, 27c; hogs, 24½c.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., Nov. 12, 1917.

Receipts of cattle for today's market were unexpectedly heavy; 236 cars as compared with 226 last Monday. Today's supply came from Virginia, 81 cars; Chicago, 76; Buffalo, 24; Pennsylvania, 21; St. Paul, 9; Pittsburgh, 7; N. Y. State, 8; Indianapolis, 4; Maryland, 3; Cincinnati, 1; St. Louis, 1.

Altho receipts were heavy, the supply of good killing stuff was light, and buyers for good killers were not on hand to take them. Everybody in the slaughtering business these days seems to be doing a hand-to-mouth business, and the result is either a famine or a feast market. When the beef trade happens to be slow for a day or two, because of bad weather or some other cause, there is a famine of buyers for beef cattle. When the weather is right and cattle supplies only moderate, buyers for beef cattle seem to spring up from everywhere and the seller does all the marking on the tickets.

The best beef cattle on today's market went to feeder buyers. The best going to slaughterers was a load of Virginia steers that weighed 1,175 lbs. at $12.15. Another load sold at $11.75. There were a great many sales of the plain kind of steers weighing 950 to 1,050 lbs. that had some flesh and a suspicion of fat, at prices ranging from $10 to $11. A few bunches of Western heifers weighing 1,000 lbs. sold at $10.50. Several cars of a fair grade of Virginia heifers weighing 800 to 825 lbs. sold at $9 to $9.50. A plain kind of heifers weighing 800 lbs. sold at $8 to $8.50. Common light weights weighing 600 to 700 lbs. sold at the wide range of $6.75 to $8. Some prime fat cows weighing 1,100 lbs. sold at $8.50. Good cows weighing 950 to 1,050 lbs. sold at $7.50 to $8. A fair grade weighing 900 sold at $6.50 to $7. A plain kind of butcher cows weighing 800 to 900 lbs. sold at $5.50 to $6.25. Bologna cows sold from $3.75 to $4.50.

Happenings in the feeder market here this week surely indicate that Eastern Pennsylvania farmers are not lacking in "nerve" in taking on feeders. One bunch of 10 head of Southern Ohio steers was sold to Mr. Elmer Strickler of Lancaster County at 15 cents per lb. The same purchaser took another bunch of 10 head at 14 cents per lb. The 15-cent cattle averaged 1,367 lbs., and the 14-cent lot averaged 1,360 lbs. Another bunch of 10 head averaging 1,333 lbs. (Canadians), were sold at 15 cents per lb. And 17 Canadian steers averaging 1,284 lbs. went at 13 cents per lb. But none of these prices compared with the sale of 1 steer, a Southern Ohio, weighing 1,670 lbs. that was sold to Frank C. Musser, at 21 cents per lb., and Mr. Musser proposes to winter feed this animal. There was many bunches of feeders sold at $11.75 to $12.25. Canadian steers weighing 800 to 1,000 lbs. sold at $10.25 to $11.

The bulk of the transactions in feeders were in a fair to pretty good kind, weighing 800 to 900 lbs. and prices ranged from $9.25 to $10. A plain kind of feeders weighing 800 to 850 lbs. sold at 9 cents per lb. One bunch of fancy Durham calves averaging 500 lbs. were purchased at $9.50. A good grade of stockers weighing 600 to 700 lbs. sold at $8.50 to $9.50. A fair kind weighing 600 to 700 lbs. sold at $8 to $8.50, and a plain kind of light weights, 500 to 700 lbs., at $6.40 to $6.90. A few odd lots of little "knot-headed straw trampers" went at $5.75 to $6.

If the writer's advice is worth anything he would suggest to buy cattle for a long feed. Entirely too many fleshy cattle with good quality and some with not such good quality, but with good weights, 1,050 to 1,150 lbs. and even up to 1,200 and 1,250 lbs. are being taken all over the United States for a short feed, to use up the soft corn that resulted from the general frost of September 10th. The likelihood is that everybody who has this kind of cattle will be ready to market and will want to market them between the 15th of January and the 1st of April, 1918, and there is a strong chance that there will be too many of them for the demand to take up at profitable prices. Therefore, anybody who wants to avoid all chance of a "bump", had better take the kind that he can keep until about haying time.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Nov. 12, 1917.

Baled Hay and Straw.—Receipts, 216 tons of hay and 4 cars of straw. There was a fair demand for both hay and straw and values were well maintained. Offerings of hay were largely of No. 2 and the lower grades, but demand was sufficient to keep supplies under pretty good control.

Timothy hay, according to location: No. 1 large bales, $27@27.50; No. 1 small bales, $27@27.50; No. 2, $26@26.50; No. 3, $23@24.50. Clover mixed hay: Light mixed, $26@26.50; No. 1, do., $25@25.50; No. 2, do., $22@23.

Straw.—No. 1 straight rye, $17; No. 2, do., $16@16.50; No. 1 tangled rye, $16; No. 2, do., $15@15.50; No. 1 wheat straw, $14@14.50; No. 2, do., $13@13.50; No. 1 oat straw, $14@14.50; No. 2, do., $13@13.50.

Bran.—Offerings were moderate and values were well maintained, but trade was quiet. Quotations (car lots, including sacks):

Soft winter bran, in 100-lb. sacks, per ton, $38.50@39; spring bran, in 100-lb. sacks, per ton, $37@37.50.

Wheat.—No. 2 red, $2.24; No. 3 red, $2.21.

Corn.—No. 2 yellow, $2.35@2.40.

Oats.—No. 2 white, new, 67@67½c.

NEW YORK HAY AND GRAIN

New York City, Nov. 12, 1917.

Feed.—There was nothing of particular interest in the general market situation on Saturday. The demand continued fair for Western grades, according to advices coming thru, but mill offerings are reduced. They are sold well ahead and are understood to be practically out of the market for the time being. Business, of course, is hampered by the demoralized traffic situation and the shortage of cars. There was no change in the position of city feeds. Trade is fair for this season of the year and the stock sufficient to meet all demand. The general tone continues steady. Quoted: Western spring in 100-pound sacks, $37.50; standard middling, $42.50; flour in 100-pound sacks, $52 to arrive; red dog to arrive in 100-pound sacks, $63; city feed, bulk bran, $35; 100-pound sacks, $36; heavy feed, $42; red dog, $63; flour, $62. Linseed oil meal, $54 per ton.

Hay and Straw.—There are very light offerings at all harbor points, and while the embargoes are off on several railroads the scarcity of cars prevents much in the way of supplies coming to this market. The tone is decidedly firm thruout and occasional sales reported above quotation.

Hay.—No. 1 timothy, $28.30; No. 2, $25@27; Fancy light clover, $28; mixed, $24@26.

Wheat.—No. 2 red, $2.25.

Corn.—No. 2 yellow, new, $1.54.

Oats.—No. 2, 69c.

Rye.—$1.85.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Nov. 12, 1917.

Butter.—The market ruled firm under light offerings of fancy stock, but wholesale trade, as usual on the last day of the week, was quiet. The better grades of solid-packed creamery brought top prices, but much of the supply was of undergrade stock, which sold slowly and was irregular in value. Fancy prints were scarce and firm, with demand fully equal to the offerings, but medium and low grades were dull and weak.

Western, fresh, solid-packed creamery, extra, 45c; higher scoring goods, 46@47c; extra firsts, 44@44½c; firsts, 43@43½c; seconds, 41@42c; sweet creamery, extra, 40c; undergrades, 43@45c; nearby prints, fancy, 49c; average extras, 46@48c; firsts, 44@45c; seconds, 41@43c; special fancy brands of prints were jobbing at 52@55c.

Cheese.—The market ruled firm at the recent advance, but wholesale trade was quiet.

New York, full cream, fancy, June 25½c; special higher; do., fresh made, best, 23½@23½c; do., fair to good, 22½@23c.

NEW YORK MILK MARKET

New York City, Nov. 12, 1917.

Owing to the uncertainty regarding the retail price, the market has been in an upset condition. A conference held at Washington on November 9, Mr. Hoover, Mr. Williams, New York City Food Administrator, and representatives of the Dairymen's League and the distributors resulted in action which is likely to clear the atmosphere for the present. It was decided to conduct an investigation of costs of production and distribution. In the meantime the dealers are not to raise the retail rate above that for October, and the dairymen will not raise their rates before the investigating commission has reached conclusions. In fact they have been asked to return in December to the October rate. A meeting of the directors of the Dairymen's League has been called for November 13 with a view to confirming the action of R. D. Cooper, the president, at the Washington conference. This probably means that there will be no changes in retail prices before January 1.

The League rates for Grade B (barn score 55) to the producer in the first district are $3.34 a hundred for 3 percent milk; $3.55, or approximately 7½ cents a quart for 3.6 percent; and $3.69 for 4 percent. Receipts of milk and cream in 40-quart cans for the week ending November 10 were as follows:

Railroad	Milk	Cream
Erie	40,142	1,519
Susquehanna	4,514	33
West Shore	9,470	850
Lackawanna	47,370	1,520
N. Y. Central (long haul) including Rutland	102,359	1,883
Ontario	38,455	1,647
Lehigh Valley	37,435	353
New Haven	2,850	
Pennsylvania	7,950	80
Other sources	5,625	150
Totals	296,170	8,035
Same week last year	334,118	9,643

TOBACCO MARKET

The large buyers are expressing their disapproval of the prices growers have demanded and are now getting for their product of the present year. According to one account the "extravagant notions of farmers and not the increased war taxes have made it necessary to advance prices to consumers." That may be true but the so-called extravagance is but a necessary and wholly consistent advance brought about by the soaring prices of all farm products. The same buyers lament now that such prices having been paid for part of the product the obstinate growers who have not sold will still further stiffen their opinion as to the value of their tobacco. They also note the alleged inconsistency of many farmer-bankers who, while demanding such prices for their tobacco, refuse to loan the speculator who would borrow money and invest it in tobacco. Meanwhile, growers should be encouraged to not be too free in selling as prices are constantly advancing and are higher now than may be fully understood. It is but a few weeks until the new product will be ready and values will be established on the merits of situation. Generally, it is better to take your own chances as no one is going to take them for you without a reasonable assurance of profit. A favorable feature with reference to tobacco is the fact that, being classed as a luxury, it will not be subject to obnoxious price regulation as are most farm products. With the present increasing consumption and decreasing production, the time of low prices seems to be far removed and those who contemplate any increase in their facilities for tobacco growing should be assured of ample returns.—H. E. Tweed, Nov. 12, 1917.

Grange

LYCOMING CO., PA.

The October meeting of the Lycoming county Pomona Grange held on Thursday at Captain John Brady Grange at Pennsdale was largely attended and full of interest, final plans for the State Convention, which meets in Williamsport, being made. C. H. Dildine, of the State Executive Committee, was present and addressed both morning and afternoon sessions. The morning session was devoted to business and to listening to reports from the Subordinate Granges. T. P. S. Wilson, head of the local committee, made his report. Mr. Wilson announced the heads of the different committees, and told of the preliminary work of these committees. He said that 2000 letters had been sent to the Masters of subordinate granges, giving them detailed information concerning the duties of the delegates. Reception committees will meet every train every day of the convention. Mr. Wilson also announced that plans to care for the delegates at Trinity House, where the convention will be held, are about completed. A physician, a Red Cross nurse in a room specially fitted up for her use, will be on hand at all meetings, and the use of the ambulance provided for, in case of illness. The churches and restaurants have announced that they will serve meals. Mr. Dildine announced that 1200 delegates would be present, and the committee on housing made a report to the effect that many rooms in hotels had been secured but the people of the city were being asked to open their houses to paying guests, for night lodgings. The program has been practically finished and Mr. Dildine said that he believed this would be one of the finest conventions ever held by the State Grange.

Owing to the fact that the Grange sometimes meets in fifth degree sessions, a class of ten were obligated to take the fifth degree, this giving them a right to attend the sessions, and also giving them the password. Mr. Dildine was in charge of the service, and conducted this in a very impressive and formal manner. The election of officers also took place at this meeting.

In his address to the Grange in the afternoon Mr. Dildine spoke of the work the Grange was doing in the way of making laws, and he advised the Grangers to think seriously before they elected men to fill the offices at Harrisburg and Washington, and to be sure they would give the farmer a fair deal. He said that the taxes at one time levied on the farmer were fair, for at that time the only man making money was the farmer. Today, times have changed and all should be treated alike. He also referred to the life insurance carried on by the Granges of Ohio, Pennsylvania and New York, declaring that if a man wanted to have his life insured, he should take out the insurance through the Grange. Over seventy-five per cent of the stockholders are Grangers and the officers are as clean and honest a set of business men as one could wish to deal with. Mr. Dildine also gave some good advice to subordinate Granges. He said that the one thing each Grange should strive for at the present time is to increase their membership. "We ought to have all the wideawake farmers in the country in the Granges," he said. One of the best ways to do this, Mr. Dildine said, judging from their own experience, is to have a visiting campaign. "Get all the Granges to enter this campaign and start out as Granges to visit other Granges. You carry inspiration, and your own Grange is benefited by this very thing," he said. Mrs. Dildine, who accompanied Mr. Dildine on this trip, read a poem which she had written for a meeting of her own Grange. It was called the Sick Grange and in a clever way she mentioned the things which cause Granges to become sick and how this sickness could be best cured.—Dorothy Deane.

PICNIC AND FIELD DAY

A very important and instructive meeting took place at the National Farm School, Doylestown, Pa., October 14th, where the Collegeville Co-operative Association and representatives from other organizations met and received some timely advice and instruction on how to increase production on the farm.

After luncheon was served the meeting began in the Chapel by singing a few patriotic songs after which Dr. Bernhardt Ostrolenk, head director of the Farm School, made a brief speech and introduced Editor Prof. Pincus and Mr. Gabriel Davidson, both of New York.

Prof. Pincus gave a very important lecture on the great importance of the farmer in winning this world war; and also spoke a few words in favor of co-operation among farmers, so that they may receive a remunerative price for their produce and buy their supplies at a saving.

Mr. Gabriel Davidson made a speech in which he tried to impress upon the minds of the members the important part which they are taking in this war. He said that this country and our allies need all the food which our farms can produce and urged the farmers to till their soil in the most intensive and up-to-date manner consistent with the labor situation. He also showed that the farmer is no longer the proverbial rube of yore, but is a business man and besides being a producer he is also a manufacturer, as he can feed the products of his soil and leave a good bit of the fertility on to animals, which in turn would manufacture beef, veal, pork, poultry, etc., the farm instead of hauling a lot of it to the grain elevator. He advised that the most successful farms are thus managed. He also urged the young men to stay on the farm as it is one of the most honorable callings; to read good farm papers and other instructive information pertaining to agriculture, so that they can keep posted on the most up-to-date farming methods and make a success of agriculture.

Then Dr. Ostrolenk showed us the hogs, horses and dairy cows, showed us the good points in selecting a dairy cow, after which we had a cow judging contest. He spoke on the importance of silage and alfalfa in these times of high feed prices. He also advised the farmers to weigh the milk from the cows and keep a record of each individual so that the farmer shall be able to weed out the unprofitable cows.

After this instruction Dr. Ostrolenk took the people to view the farm, nursery, orchard, green houses, etc., and upon returning from the fields, the large auto bus which the Collegeville branch hired for the occasion, was there waiting to take the farmers and their families to their homes. All the farmers were glad of this meeting, as they received some very valuable and timely instruction which will give them some encouragement to start another year's work on the farm.—Israel Cohen, Montgomery Co., Pa.

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NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

SYNOPSIS OF PREVIOUS CHAPTERS

Henry de Spain is the new General Manager of the stage line running between the rich mines of the Spanish Sinks and the town of Sleepy Cat. He immediately gets in trouble with members of what is known as Morgan's gang whose headquarters are at Morgan's Gap. One of the Morgan followers, Sassoon, assaults one of the stage drivers, and is arrested by de Spain. The Morgans take this as an affront on their power, and set to "get" de Spain. In the meantime, de Spain falls in love with Nan Morgan, niece of the "gang" leader. While the Morgans are trying to find ways of putting him out of the country, de Spain is trying to find ways of currying favor with Nan. He learns that she is coming to the company barns at Calabasas to get her pony to ride out to the Gap. De Spain is arranging for her comfort and goes to the Calabasas Inn to get her a cup of coffee.

CHAPTER IX. (Continued)

With arrangements so begun, de Spain walked out-of-doors and looked reflectively up the Sleepy Cat road.

It was four o'clock, and the sun beat fiercely on the desert. De Spain walked down to the inn unmindful of the heat. In summer rig, with his soft-shirt collar turned. under, his forearms bare, and his thoughts engaged, he made his way rapidly on, looking neither to the right nor the left.

As he approached the weather-beaten pile it looked no more inviting in sunshine than it had looked in shadow; and true to its traditions, not a living being was anywhere to be seen. The door of the office stood ajar. De Spain, pushing it all the way open, walked in. No one greeted him as he crossed the threshold, and the unsightly room was still bare of furnishings except for the great mahogany bar, with its two very large broken mirrors and the battered pilasters and carvings.

De Spain pounded on the bar. His effort to attract attention met with no response. He walked to the left end of the bar, lifted the handrail that enclosed the space behind it, and pushed open the door between the mirrors leading to the back room. This, too, was empty. He called out—there was no response. He walked through a second door opening on an arcaded passageway toward the kitchen—not a soul was in sight. There was a low fire in the kitchen stove, but Mrs. McAlpin had apparently gone home for a while. Walking back toward the office, he remembered the covered way leading to a patio, which in turn opened on the main road. He perceived also that at the end next the office the covered way faced the window at the end of the long bar.

Irritated at the desertion of the place, due, he afterward learned, to the heat of the afternoon, and disappointed at the frustration of his purpose, he walked back through the rear room into the office. As he lifted the hand-rail and, passing through, lowered it behind him, he took out his watch to see how soon the stage was due. While he held the timepiece in his hand he heard a rapid clatter of hoofs approaching the place. Thinking it might be Scott and Lefever arriving from the south an hour ahead of time, he started toward the front door—which was still open—to greet them. Outside, hurried footsteps reached the door just ahead of him and a large man, stepping quickly into the room, confronted de Spain. One of the man's hands rested lightly on his right side. De Spain recognized him instantly; the small, drooping head, carried well forward, the keen eyes, the long hand, and, had there still been a question in his mind, the loud-patterned, shabby waistcoat would have proclaimed beyond doubt—Deaf Sandusky.

CHAPTER X.

The Glass Button

Even as the big fellow stepped lightly just inside and to the left—as de Spain stood—of the door and faced him, the encounter seemed to de Spain accidental. While Sandusky was not a man he would have chosen to meet at that time, he did not at first consider the incident an eventful one. But before he could speak, a second man appeared in the doorway, and this man appeared to be joking with a third, behind him. As the second man crossed the threshold, de Spain saw Sandusky's high-voiced little fighting crony, Logan, who now made way, as he stepped within to the right of the open door, for the swinging shoulders and rolling stride of Gale Morgan.

Morgan, eyeing de Spain with insolence, as was his wont, closed the door behind him with a bang. Then he backed his powerful frame significantly against it.

A blind man could have seen the completeness of the snare. An unpleasant feeling flashed across de Spain's perception. It was only for the immeasurable part of a second—while uncertainty was resolving itself into a rapid certainty. When Gale Morgan stepped into the room on the heels of his two Calabasas friends, de Spain would have sold for less than a cup of coffee all his chances for life. Nevertheless, before Morgan had set his back fairly against the door and the trap was sprung, de Spain had mapped his fight, and had already felt that, although he might not be the fortunate man, not more than one of the four within the room would be likely to leave it alive.

He did not retreat from where he halted at the instant Sandusky entered. His one slender chance was to hug to the men that meant to kill him. Morgan, the nearest, he esteemed the least dangerous of the three; but to think to escape both Sandusky and Logan at close quarters was, he knew, more than ought to be hoped for.

While Morgan was closing the door, de Spain smiled at his visitors: "That isn't necessary, Morgan: I'm not ready to run." Morgan only continued to stare at him. "I need hardly ask," added de Spain, "whether you fellows have business with me?"

He looked to Sandusky for a reply; it was Logan who answered in shrill falsetto: "No. We don't happen to have business that I know of. A friend of ours may have a little, maybe!" Logan, lifting his shoulders with his laugh, looked toward his companions for an answer to his joke.

De Spain's smile appeared unruffled: "You'll help him transact it, I suppose?"

Logan, looking again toward Sandusky, grinned: "He won't need any help."

"Who is your friend?" demanded de Spain, good-naturedly. Logan's glance misled him; it did not refer to Sandusky. And even as he asked the question de Spain heard through the half-open window at the end of the bar the sound of hoofs. Hoping against hope for Lefever, the interruption cheered him. It certainly did not seem that his situation could be made worse.

"Well," answered Logan, talking again to his gallery of cronies, "we've got two or three friends that want to see you. They're waiting outside to see what you'll look like in about five minutes—ain't they, Gale?"

Some one was moving within the rear room. De Spain felt hope in every footfall he heard, and the mention this time of Morgan's name cleared his plan of battle. Before Gale, with an oath, could blurt out his answer, de Spain had resolved to fight where he stood, taking Logan first and Morgan as he should jump in between the two. It was at the best a hopeless venture against Sandusky's first shot, which de Spain knew was almost sure to reach a vital spot. But desperate men cannot be choosers.

"There's no time for seeing me like the present," declared de Spain, ignoring Morgan and addressing his words to Logan. "Bring your friends in. What are you complaining about, Morgan?" he asked, resenting the stream of abuse that Gale hurled at him whenever he could get a word in. "I had my turn at you with a rifle the other day. You've got your turn now. And I call it a pretty soft one, too—don't you, Sandusky?" he demanded suddenly of the big fellow.

Sandusky alone through the talk had kept an unbroken silence. He was eating up de Spain with his eyes, and de Spain not only ached to hear him speak, but was resolved to make him. Sandusky had stood motionless from the instant he entered the room. He knew all about the preliminary gabble of a fight and took no interest in it. He did *not* know all about de Spain, and being about to face his bullets he had prudence enough to wonder whether the man could have brought a reputation to Sleepy Cat without having done something to earn it. What Sandusky was sensibly intent on was the determination that he should not contribute personally to the further upbuilding of anybody's reputation. His eyes with this resolve shining in them rested intently on de Spain, and at his side the long fingers of his right hand beat a soft tattoo against his pistol holster. De Spain's question seemed to arouse him. "What's your name?" he demanded bluntly. His voice was heavy and his deafness was reflected in the strained tone.

"It's on the butt of my gun, Sandusky."

"What's that he says?" demanded the man known as the butcher, asking the question of Logan, but without taking his eyes off his shifty prey.

Logan raised his voice to repeat the words and to add a ribald comment.

"You make a good deal of noise." muttered Sandusky, speaking again to de Spain.

"That ought not to bother you much, Sandusky." shouted de Spain, trying to win a smile from his taciturn antagonist.

"His noise won't bother anybody much longer," put in Logan, whose retorts overflowed at every interval. But there was no smile even hinted at in the uncompromising vigilance of Sandusky's expressionless face. De Spain discounted the next few minutes far enough to feel that Sandusky's first shot would mean death to him, even if he could return it.

"I'll tell you, de Spain," continued Logan, "we're going to have a drink with you. Then we're going to prepare you for going back where you come from—with nice flowers."

"I guess you thought you could come out here and run over everybody in the Spanish Sinks," interposed Morgan, with every oath he could summon to load his words.

"Keep out, Morgan," exclaimed Logan testily. "I'll do this talking."

De Spain continued to banter. "Gentlemen," he said, addressing the three together and realizing that every moment wasted before the shooting added a grain of hope, "I am ready to drink when you are."

"He's ready to drink, Tom," roared Morgan in the deaf man's ear.

"I'm ready," announced Sandusky in hollow voice.

Still regarding de Spain with the most businesslike expression, the grizzled outlaw took a guarded step forward, his companions following suit. De Spain, always with a jealous regard for the relative distance between him and his self-appointed executioners, moved backward. In crossing the room, Sandusky, without objection from his companions, moved across their front, and when the four lined up at the bar their positions had changed. De Spain stood at the extreme left, Sandusky next, Logan beside him, and Gale Morgan, at the other end of the line, pretended to pound the bar for service. De Spain, following mountain etiquette in the circumstances, spread his open hands, palms down, on the bar. Sandusky's great palms slid in the same fashion over the checked slab in unspoken recognition of the brief armistice. Logan's hands came up in turn, and Morgan still pounded for some one to serve.

De Spain in the new disposition weighed his chances as being both better and worse. They had put Sandusky's first shot at no more than an arm's length from his prey, with Logan next to cover the possibility of the big fellow's failing to paralyze de Spain the first instant. On the other hand, de Spain, trained in the tactics of Whispering Smith and Medicine Bend gunmen, welcomed a short-arm struggle with the worst of his assailants closest at hand. One factor, too, that he realized they were reckoning with, gave him no concern. No men in the mountains understood better or were more expert in the technicalities of the law of self-defense than the gunmen of Calabasas. The killing of de Spain they well knew would, in spite of everything, raise a hornet's nest in Sleepy Cat, and they wished to be prepared for it. Their manoeuvring on this score caused no disquiet to their slender, compactly built victim. "You'll wait a long time, if you wait for service here, Morgan," he said, commenting with composure on Morgan's impatience. Logan looked again at his two companions and laughed.

Every hope de Spain had of possible help from the back room died with that laugh. Then the door behind the bar slowly opened, and the scar-featured face of Sassoon peered cautiously from the gloom. The horse thief, stooping, walked in with a leer directed triumphantly at the railroad man.

If it were possible to deepen it, the sinister spot on de Spain's face darkened. Something in his blood raged at the sight of the malevolent face. He glanced at Logan. "This," he smiled faintly, nodding toward Sassoon as he himself took a short step farther to the left, "is your drink, Harvey, is it?"

"No," retorted Logan loudly, "this is *your* drink."

"I'll take Sassoon," assented de Spain, good-natured again and shifting still another step to the left. "What do you fellows want now?"

"We want to punch a hole through that strawberry," said Logan, "that beauty-mark. Where did you get it, de Spain?"

"I might as well ask where you get your gall, Harvey," returned de Spain, watching Logan hunch Sandusky toward the left that both might crowd him closer. "I was born with my beauty-mark—just as you were born with your damned bad manners," he added composedly, for in hugging up to him his enemies were playing his game. "You can't help it, neither can I," he went on. "Somebody is bound to pay for putting that mark on me. Somebody is bound to pay for your manners. Why talk about either? Sassoon, set out for your friends—or I will. Spread, gentlemen, spread."

He had reached the position on which he believed his life depended, and stood so close to the end of the bar that with a single step, as he uttered the last words, he turned it. Sandusky pushed close next him. De Spain continued to speak without hesitation or break, but the words seemed to have no place in his mind. He was thinking only, and saw only within his field of vision, a cut-glass button that fastened the bottom of Sandusky's greased waistcoat.

"You've waited one day too long to collect for your strawberry, de Spain," cried Logan shrilly. "You've turned one trick too many on the Sinks, young fellow. If the man that put your mark on you ain't in this room, you'll never get him."

"Which means, I take it, you're going to try to get me," smiled de Spain.

"No." bellowed Morgan, "it means we have got you."

"You are fooling yourself, Harvey." De Spain addressed the warning to Logan. "And you, too, Sandusky," he added.

"We'll take care of that," grinned Logan. Sandusky kept silence.

"You are jumping into another man's fight," protested de Spain steadily.

"Sassoon's fight is our fight," interrupted Morgan.

"I advise you," said de Spain once more, looking with the words at Sandusky and his crony, "to keep out of it."

"Sandusky," yelled Logan to his partner, "he advises me and you to keep out of this fight," he shrilly laughed.

"Sure," assented Sandusky, but with no variation in tone and his eyes on de Spain.

Logan, with an oath, leaned over the bar toward Sassoon, and pointed contemptuously toward the end of the bar. "Shike!" he cried, "step through the rail and take that man's gun."

De Spain, looking from one to the other of the four faces confronting him, laughed for the first time. But he was looking without seeing what he seemed to look at. In reality, he saw only a cut-glass button. He was face to face with taking a man's life or surrendering his own, and he knew the life must be taken in such a way as instantly to disable its possessor. These men had chosen their time and place. There was nothing for it but to meet them. Sassoon was stepping toward him, though very doubtfully. De Spain laughed again, dryly this time. "Go slow, Sassoon," he said. "That gun is loaded."

"If you want terms, hand over your gun to Sassoon," cried Logan.

"Not till it's empty," returned de Spain. "Do you want to try taking it?" he demanded of Logan, his cheeks burning a little darker.

Logan never answered the question. It was not meant to be answered. For de Spain asked it only to cover the spring he made at that instant into Sandusky's middle. Catlike though it was, the feint did not take the big fellow unprepared. He had heard once, when or where he could not tell, but he had never forgotten the hint, that de Spain, a boxer, was as quick with his feet as with his hands. The outlaw whirled. Both men shot from the hip; the reports cracked together. One bullet grazing the fancy button smashed through the gaudy waistcoat: the other, as de Spain's free hand struck at the muzzle of the big man's gun, tore into de Spain's foot. Sandusky, convulsed by the frightful shock, staggered against de Spain's arm, the latter dancing tight against him. Logan, alive to the trick but caught behind his partner, fired over Sandusky's right shoulder at de Spain's head, flattened sidewise against the gasping outlaw's breast. Hugging his shield, de Spain threw his second shot over Sandusky's left shoulder into Logan's face. Logan, sinking to the floor, never moved again. Supporting with extraordinary strength the unwieldy bulk of the dying butcher, de Spain managed to steady him as a buffer against Morgan's fire until he could send a slug over Sandusky's head at the instant the latter collapsed. Morgan fell against the bar.

Sandusky's weight dragged de Spain down. For an instant the four men sprawled in a heap. Sassoon, who had not yet got an effective shot across at his agile enemy, dropping his revolver, dodged under the rail to close. De Spain, struggling to free himself from the dying man, saw, through a mist, the greenish eyes and the thirsty knife. He fired from the floor. The bullet shook without stopping his enemy, and de Spain, partly caught under Sandusky's body, thought, as Sassoon came on, the game was up. With an effort born of desperation, he dragged himself from under the twitching giant, freed his revolver, rolled away, and, with his sight swimming, swung the gun at Sassoon's stomach. He meant to kill him. The bullet whirled the white-faced man to one side and he dropped, but pulled himself, full of fight, to his knees and, knife in hand, panted forward. De Spain rolling hastily from him, staggered to his feet and, running in as Sassoon tried to strike, beat him senseless with the butt of his gun.

His own eyes were streaming blood. His head was reeling and he was breathless, but he remembered those of the gang waiting outside. He still could see dimly the window at the end of the bar. Dashing his fingers through the red stream on his forehead, he ran for the window, smashed through the sash into the patio and found Sassoon's horse trembling at the fusillade. Catching the lines and the pommel, he stuck his foot up again and again for the stirrup. It was useless; he could not make it. Then, summoning all of his fast-ebbing strength, he threw himself like a sack across the horse's back, lashed the brute through the open gateway, climbed into the saddle, and spurred blindly away.

(To be continued.)

A pledge card sent from every household in America to the Food Administration will demonstrate that we are not merely sending an army; we are enlisting a nation.

CHORES

There's a trait somewhere inside me
  For which I thank the Lord;
I love the farmer's duties
  And the joys his jobs afford.
An' when you speak of blessin's
  I wish you'd name a few
That beat jes' doin' jobs you love,
  An' lovin' what you do.
(Jes' mention one that beats it
  An' I'll doff my hat to you.)

Of course it's great, in summer,
  To be workin' out of doors,
But I rather like the winter time,
  Jes' potterin' 'round at chores.
Of course it's joy, when things is green,
  To work—and watch 'em grow,
But when the air is needley
  An' keen with drivin' snow
I like to tend the critters,
  'Cause the critters need me so.

The horses are a-nickerin'
  An' pawing for their hay
As I fumble with the stable door
  Soon after peep o' day;
An' that squeaky-hinged old feed-box
  That never saw a lock,
Beats Gabriel's trump in forty ways
  Fer rousin' all the stock.
(It gets replies in thirteen tongues,
  "Good morning" from my flock.)

Ah! then fer half an hour or so
  My hired man an' I
Jes' traverse that there barnyard—
  The stables an' the sty
An' the sheep-sheds an' the cow-barn—
  An' the first thing that we do
Is to see that every beast that's there
  Has somethin' he can chew.
(God makes the critters hungry,
  An' he wants 'em tended to.)

I like to feed the sheep their grain;
  Some mixed-up corn and oats,
An' see 'em jump stiff-legged
  An' shake their wooly coats,
Or watch some yearlin' frisk an' bounce,
  Or hear the old pet ewe
Attemptin' simultaneous-like
  To blat as well as chew.
(She likes to talk at mealtime
  Jes' the same as us folks do.)

I like to milk an' separate
  And feed the hogs their slop,
An' hear 'em suck an' guzzle
  As if they'd never stop.
An' see Old Sukey crowd the pigs
  An' heedless of their squealin',
Jes dredge that trough from end to end
  Fer one more apple-peelin'
  (That trick is almost human-like,
  I've always had a feelin').

The horses are so prancy
  When I lead 'em to the crick,
That they'd almost like to slip me,
  But they know I'm middlin' quick.
We'll hook 'em after breakfast
  An' fetch a load of wood,
An' maybe haul a load of straw
  An' bed the sheep-yard good.
(We might drive up to town, I guess,
  If Mother thought she could.)

Now, all of this is happiness
  To farmer chaps like me.
A farm-yard in the winter time
  Is a true democracy;
An' if you boast your blessin's,
  I wish you'd name a few
That beat jes' doin' jobs you love
  An' loving what you do.
(Jes' mention one that beats it
  An' I'll doff my hat to you.)

—*R. S. Clark.*

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33x4	$10.50	36x4½	$13.00
34x4	$10.50	37x4½	$13.50

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Sizes	Price	Sizes	Price
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30x3½	$6.00	34x4½	$8.50
32x3½	$7.00	35x4½	$9.00
33x4	$8.50	36x4½	$9.00
34x4	$8.50	37x4½	$10.00

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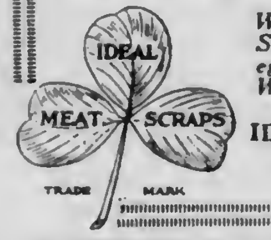

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More Flocks to the Hillsides

New York Sheep Show and Meeting

Many people remember when the small flock of sheep was considered as profitable on most eastern farms as the cows, swine and poultry. Because sheep products were at times low in price, and because of damage done by dogs, the dairy cow has for years been displacing the sheep, especially when grain prices were relatively lower with those of dairy products. Within the last few years the situation has changed. Sheep products are high and produced at a less labor and grain cost than dairy products and, in New York at least, it is expected the new dog law will keep the dog in his right place.

It was for the purpose of awakening farmers to present opportunities in the sheep industry that the New York State Agricultural Society held a large meeting at Utica last week. The meeting was addressed by the best sheep experts in the country. There was a sheep show where typical animals of most of the standard breeds were exhibited, and sheep judging was an educational feature. One was impressed with the feeling that the "Golden fleece" is coming back to the farm, to help out in the high cost of living, and help pay our great war debt; that the waste lands, now an undeveloped asset, will again feed the sheep that will have come to their right place in economic farming. Brief notes from the leading features of the show follow:

Starting With Sheep

Prof. W. C. Coffey, of Illinois University, told the farmers how to start right with sheep. There are fundamental principles, he said, that apply everywhere to sheep management. If one goes into the sheep business, he should go in to stay for a long term of years. Too much has been said about the flock that will conserve waste on the farm. It will pay to give a good type of sheep a full chance to make good. Utilize the wastes, but fully supplement them so the sheep are fully fed on good forage and grain. One month of full grain and hay feeding may make the difference between success and failure. A field of rape may enable you to raise healthy and stronger lambs when it supplements dry old pastures. Don't overdo liberal feeding; stop when you have satisfied their hunger. Plan not to have anything left after feeding. In selecting breeding stock the ends to keep in mind are mutton, wool and vigor, especially vigor is wanted. I believe thoroly in the good purebred ram. There is no place anywhere for the grade ram or the poor purebred rams. They should not be sold for breeding purposes.

Another important factor in success in shepherding; the right handling of the flock by trained men who like sheep. The old statement that "sheep require little care", is untrue. They require relatively less care than other livestock but an old beautiful saying was "the shadow of the shepherd should be over the sheep each day". He should know the flock individually, and try to build up the weak and thin in the flock. In lambing time, don't go on a vacation or to the movies. Organize more sheep clubs. Start flock improvement thru community breeding and try to get the boys interested.

The Breed

The farmer will avoid serious mistakes if he starts with the breed best adapted to his farm. Prof. Charles Plumb, of Ohio State University, said that more than anything else we need to develop a kind of animal suited to the local need. Breeds have been built up on the necessity of adaptation to the locality. By studying the characteristics of breeds, success is more easily worked out. Some of the characteristics of different breeds are as follows: Because it has been a wool sheep and not valuable as a mutton producer, the Merino sheep is now less popular. The Southdown is a mutton sheep of highest quality, but it shears a light fleece. The Shropshire is a great breed. It has been called the farmer's sheep, because it combines in the highest degree the quality of a mutton and wool sheep. The Oxforddown is a very large, strong sheep and is valuable to cross on the weaker breeds, such as the Merino. Another of the large wool and mutton sheep is the Hampshire. It is used in the production of hothouse lambs. The Suffolk is a black-faced mutton sheep. The Cheviots are distinctly a mountain sheep and are among the hardiest sheep in the world; the mutton is of the highest quality but it is a slow feeder. The Cheviots do not flock well. The Dorset is an old popular breed. The ewes often produce lambs twice a year but it is not a good wool sheep. The Leister and Lincoln breeds need only to be mentioned as best suited to low lands.

Economics of Sheep Business

Prof. F. R. Marshall, of the U. S. Department of Agriculture, presented the economic side of the subject. He said that after the most careful study of the prospects of success in the sheep industry, it seems to be settled that good farming on most eastern farms necessarily include some sheep. The products of the sheep cannot again become so cheap as to become unprofitable. The large increase in population is one reason. The Government now is using more wool for the army purposes than is produced in this country. A large part of the wool must be imported. Everything indicates that we can depend on good prices for many years. Sheep in the past did not pay, partly because only wool sheep were kept. The wool and mutton sheep is the kind that will pay best in the future. With sheep we can go further in meat production without grain than with any other animal. In fact, good mutton can be produced without grain. We have a less grain and labor cost for a pound of mutton than for any other meat.

New York Dog Law

Readers will want to know what New York is doing to protect sheep owners from the dog menace. Charles W. Larmon, of the State Department of Agriculture, said the main question is "What can we do to build up the sheep industry in the United States?" If the dog stands in the way, we must eliminate him. Up to date, 400 claims that have averaged $100 have been presented to the Department of Agriculture since July 1st. We estimate that the aggregate for the year will be about $70,000. One man said that in ten years his flock had been wiped out five times. The new dog law must dispose of 1,000 worthless curs in the state. The license fund should amount to over $60,000 this year—about enough to pay for damages we may expect. We will be able to pay such a price for flocks destroyed as to set the owners up again in business. We hope to enforce the provision that no dog should be allowed off the owner's premises from sunset to sunrise. This should eliminate most of the damage to sheep by dogs. An extra effort will be made by owners to know where their dogs are nights, when most of the damage is done to sheep. Protection is placed within the means of all farmers. The matter is up to them to inform themselves and get the benefits, or they may remain in ignorance and suffer needlessly. Apply to the State Department of Agriculture for copies of the law, and for help of officials to enforce it.

Sheep in New York

Prof. H. A. Hopper, of Cornell University, supplemented what had been said with some timely facts. He spoke of the large decline in the production of wool and mutton in the whole country. The result of this is the reaction in sheep farming. There is now a lack of good shepherds fitted for the business. We have been training dairymen but not shepherds. Much of the land in the east is loafing; it is not at work. There are sections of rough land that could be utilized for sheep pasture. Sheep could be adapted to many farms without displacing to a great extent other crops and live stock. Small flocks on the rougher sections would reduce the labor item and substantially increase the income. It is estimated that the manure of one sheep is worth five dollars per year.

That farm flocks are profitable is not a new discovery. It is their record that they have always been fairly profitable. Because of higher price for their products, there is now greater inducement for reviving the sheep industry. A profit of $15 per year per sheep is possible. The low tillable lands of the east have been mostly developed in crop growing or in the dairy business. We have still great assets in the high lands to greatly increase the production of food and clothing. We need to crystallize sentiment on sheep husbandry so men will understand some facts about the business.

Wool Supply

A. C. Bigelow, of the Philadelphia Wool and Textile Association, added more on economic and patriotic reasons for engaging in sheep husbandry at an opportune time. He said the annual slaughter of sheep for mutton during the war has been very heavy, so the world is short of sheep and of wool for manufacturing clothing. Prices for wool have advanced rapidly in a few years. Because of this increase of price the manufacturers of cloth have introduced more cotton to be able to sell it for the same price, so we are all getting less wool in our clothing bought at the same price than in former years.

The opinion of all experts who have given consideration to the economic situation is that the prices of wool will be maintained to a higher level for many years. The same is true of the mutton outlook. Food will win the war and it will be needed in larger supply after the war until the normal conditions existing before the war have been restored. Food and clothing are elemental human necessities, and we can always depend on a growing demand with increasing population. The sheep supply of the western ranges is doomed, and its place must be taken by the small farm flocks that utilize waste lands. Bring back the "golden fleece to the hillsides" to help live better, and pay the war debt.

Purebred Sheep

Henry L. Wardell, of New York, advised the keeping of purebred sheep. He said we soon get more interested in animals when we try to breed to perfect types or standards. Getting rid of culls and keeping your best will develop a flock that gives you pleasure in caring for, and fortunately profit lies along the line of breeding standard-bred, utility sheep. One thing all sheep breeders can do is to start with purebred rams, and then practice line breeding to a standard. We want both mutton form and the close fleece sheep. This is the business sheep to keep in mind as an ideal. Breed only from the best and buyers will look for you, not you for them.

Interest the Boy

Prof. Frank Kleinheinz, of the University of Wisconsin, said a boy's success on a farm will depend on allowing him to own some livestock to care for and own. It will be his education and also his salvation from many evils. The lamb is a safe playmate for the boy but if you take the money the lamb makes for the boy away from him, you lose the boy. You may drive him from the business of animal husbandry and forever away from the farm. A sheep is an appealing animal and its care tends to make peaceful men and better citizens. One good work of farmers' clubs will be to offer prizes for the boys who breed the best lambs. Prof. Kleinheinz advised keeping one ram to every 50 sheep, and the ram should be at least one year old, and three is better. Do not breed ewe lambs, but yearlings or older. Timothy hay is poisonous to sheep — not quite so quick as arsenic, but it will ruin them in time. Work to get clover and alfalfa and succulent green food, as ensilage and roots.

A sheep sale was held on the last day of the meeting and a fine type of sheep was on exhibition. To attend the meeting was an education for the shepherd, and the general feeling was that this, the oldest branch of animal husbandry, is coming back to occupy a permanent place in American agriculture.—J.

Worms—Fits.—I have a young dog that has been troubled with coughing spells for the past two weeks; he also vomits and has occasional fits, which last for a few minutes. He eats and drinks well, but grows thin. E. V. D., Milton, Pa.—For every pound he weighs give him 1 grain of powdered kamala in a tablespoon of sweet milk, twice a week for two weeks.

Weakness.—The other morning I found my mare cast, head and fore legs under manger; we pulled her back in stall, but she was unable to get up. Called veterinarian who placed her in slings; have had her in them for nine days. She has been taken out of slings during the day, put back for the night, and now I find her in good condition, but when down is unable to get up without help. She seldom makes any effort to get up. O. V. E., Trenton, N. J.—Give her 1 dr. of fluid extract of nux vomica and 30 grains of potassium at a dose in feed or drinking water, three times daily. Her recovery will be slow.

There is some question as to the use of leaves and trash for compost. They add humus to the soil and have a real value for this purpose. On the other hand, plant sanitation requires the destruction of old vines, stalks and trash which harbor insects and disease over winter. Clean farming will check infection. Yet it is too bad to lose the mulching value of the tree leaves, which generally do not spread garden diseases and insects. Think over the problem and use plain common sense in its solution.

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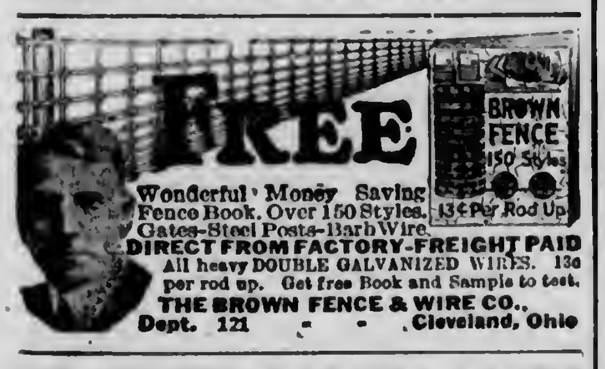

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- 3 Holstein Cows and Heifers, not Reg.
- 3 Farm Horses.
- 250 R. I. Red Chickens and Pullets, Whitmer Strain; 25 Geese; 32 Ducks; 12 Guineas; 2 Hives Bees.
- 1000 bu. Corn; 4000 bdl. Fodder; 10 Tons Mangoes; 4 Tons Oats and Peas; 75 bu. Potatoes.
- 5 H-P. G. E. Motor; 2 Hay Wagons and all other equipment of this 83-acre farm. Farm is sold. Sale of equipment absolutely. Lunch at 11. Complete circular with breeding of cattle on request.

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Spot Farm Holsteins $15 to $20 each for 7-8 Holstein heifer calves, express paid in lots of 5. 25 high grade close springer cows, fine individuals, heavy milkers. 40 heifers. 35 fancy yearlings. 12 registered cows. 35 registered heifers. Registered and high grade bulls.
JOHN C. REAGAN, Tully, N. Y.

Purebred Shorthorn Cattle for Sale I will sell at the W. M. Benninger's Sale of Holstein cattle, to be held at the Veranda House,
Norristown, Pa., on Nov. 28th, 1917
the following Purebred Shorthorns: One bull, three years old; two cows, four and six years old; two yearling heifers, and one heifer calf. Have for sale, also, one complete set of Shorthorn Herd Books, and one share in American Shorthorn Breeders' Association.
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Guernsey Bull No. 37363, "Knight of Green Meadow." Sire, Pencoyds Golden Secret; dam, Imp. Naftaux Polly II. 2 years old in November. Price $200 and a bargain.
Guernsey Cows 2 High Grade Guernsey Cows bred to "Knight of Green Meadow" No. 37363—due Feb. and Mar. '18—Milk high in butterfat and color. One solid fawn, one white markings on fawn—light noses. $300 will buy the pair or $150 either one.
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Naturally Polled Holstein-Friesian
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Registered Holstein bull and heifer calves from a ton show bull and heavy milking dams. Best breeding. Write I. V. OTTO, CARLISLE, PENNA.

Jersey Bulls ready for light service. Send for pedigrees and prices.
JOHN L. VAN HORN, TROY, PA.

Milking Shorthorns herd bull, dam a 11259 lb. daughter of General Clay, grandam, Rose of Glenside. C. M. Kennedy & Sons, Ulster, Pa.

Reg. Jersey 2 bull calves 8 mos. old; good ones. Also Duroc Jersey pigs.
JOHN W. COX, NEW WILMINGTON, PA.

AYRSHIRE BULL CALVES Advance Registry ancestry. Priced to sell. They will improve your herd. ROBERT TEMPLETON & SON, ULSTER, PA.

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Cheshires Several fine fall litters awaiting your orders. Price $10 each. Registered.
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Service boars, bred sows, pigs all ages.
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CHESTER WHITES and POLAND CHINAS
All ages. Registered free. Jersey bulls.
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Reg. O. I. C. Special sale on fall pigs, from best blood lines procurable.
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Big Type Poland Chinas boars ready for service. Gilts bred or open. Prolific, easy feeders. Price right. O. C. Powell, Ada, Ohio.

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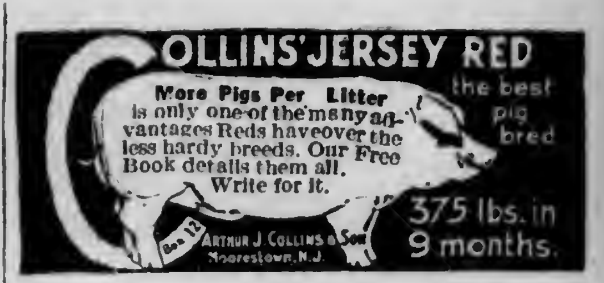

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The boar, Majestic Mammoth 229590, weight 407 lbs. at 7 months old was bred and grown by us. When you want the best and want them big, write to—
C. H. Carter, Whitguern Farm,
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Reg. P. Chinas, Berkshires, C. Whites. Large strain, all ages, mated not akin. 8 weeks pigs, bred sows, service boars, Collie and Beagle dogs. Grade Guernsey calves and poultry.
P. F. HAMILTON, COCHRANVILLE, PA.

HAMPSHIRES
Have large litters, our free circular shows noted winner. Write for it. Also registered Guernsey bulls.
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Big Type Poland Chinas Booking orders for Giant Smooth Wonder and Ohio King 2nd. These pigs are from 700 and 800 lb. sows. Sired by King of Wonders, Oaklands Equal and Wonderful Wonder. For particulars and prices address C. S. EPPLEY, Zanesville, Ohio.

Chester Whites & Berkshires pigs 6 & 8 weeks old. 2 Chester White Boars 4 mos. Write your wants.
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Chester Whites Big Type. Write your wants. We can fill them.
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Registered Berkshires Large litters. Fall pigs priced right.
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Duroc Jerseys Extra nice 10 wk. pigs, $8; also handsome ped. female Collie, good with cows, $10. Hugh Brinton, West Chester, Pa.

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S. C. White Leghorn baby chix, pullets, hatching eggs, 250 egg strain. Long deep bodies, yellow legs & beaks & large red lop-over combs.
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Geese Wanted 6 pure white female Emden, 3 years or older.
WEST SARUM FARM, GLEN MILLS, PA.

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White Wyandottes Genuine Tom Barron strain; choice egg-bred cockerels, $3.
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Miscellaneous

For Sale

Four-year-old Suffolk Stallion; weight about 1900 pounds. Sound and right. Good breeder. Price reasonable.

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Ferrets For Sale —all sizes; any number. ALSO ANGORA KITTENS. C. JEWELL, SPENCER, OHIO.

Cotswolds 8 young cotswolds ewes, 2 ewe lambs, one ram lamb. All pure bred.
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White and Brown Ferrets prices on request.
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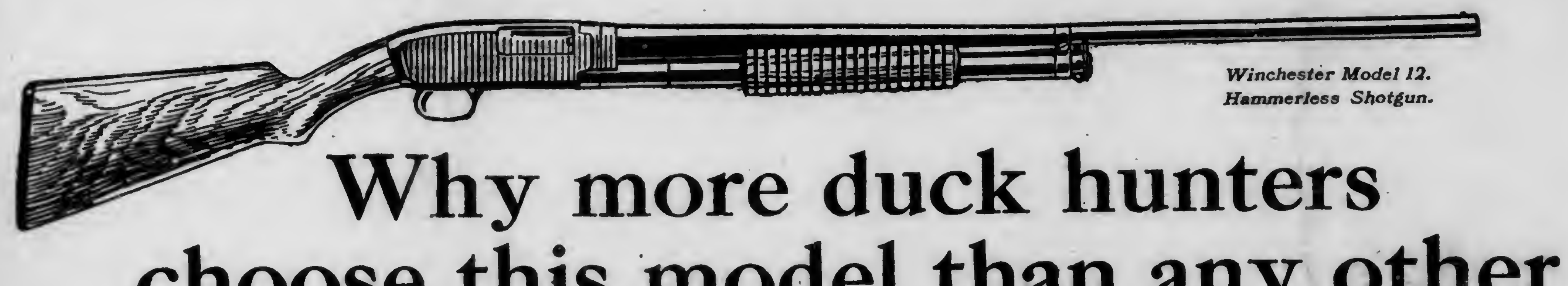

Winchester Model 12.
Hammerless Shotgun.

Why more duck hunters choose this model than any other

If there's ever a place where you need a gun that's a hundred per cent reliable, it's when you're down in the damp salt marshes after duck.

Whatever gun you may start with, if you keep on long enough, you will come around to the Winchester No. 12 Repeater. It is the favorite in the long run with old duck shooters.

In the damp salt air of the seashore and swamps this gun never "gums." Under the most severe conditions it is a sure-fire, sure-to-work Repeater. It will not jam, catch, or fail to extract the empty shell. It "feels" right, "comes up" right, and *is* right. It works smoothly in whatever position it is held.

At the distance at which you get most chances at ducks, this gun shoots an effective uniform pattern of great game-getting penetration.

The pattern that brings down the game

The remarkable game-getting pattern of the Winchester Model 12 (or the Model 97 for those who prefer a hammer gun) shooting its own standard ammunition, is the result of infinite care taken in boring the barrel.

The right amount of choke for different loads has been worked out after exhaustive experiment. Result: a pattern that spreads out evenly — neither too scattered nor too bunched—and lands with lots of steam behind it.

Quick feeder, sure ejector. Throws empty shell to the side, out of your way.

Even spread, maximum penetration. Winchester shot pattern brings down the game.

The barrel *is* the gun

Men who know guns realize that the accuracy and durability of a gun lie in the barrel. On the quality of the barrel depends the quality of the gun. There is absolutely no difference in the standard of quality of the barrel on the highest and lowest priced Winchester guns. With Winchester the barrel *is* the gun and the single standard of quality has been attained only by the most unremitting attention to the boring, finishing and testing of the barrel.

The Winchester barrel

The barrel of the Winchester Model 12 has been bored to micrometer measurements for the pattern it is meant to make. The degree of choke exactly offsets the tendency of the shot to spread. Until its pattern proves up to Winchester standard, the gun cannot leave the factory. The Nickel Steel construction preserves the original accuracy forever. The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a distinctive blue finish that, with proper care, will last a lifetime.

For those who prefer a hammer action shotgun, we have made the Model 97. It is built on similar lines to the Model 12, but with hammer action.

What means

This mark on the barrel means *Viewed and Proved Winchester.* This stamp stands for Winchester's guarantee of quality, with fifty years of the best gun-making reputation behind it.

Every gun that bears the name "Winchester" and that is marked with the Winchester Viewed and Proved stamp has been fired many times for smooth action and accuracy, and has been fired with excess loads for strength.

At every stage of Winchester manufacture, machine production is supplemented by human craftsmanship. It is a *test and adjustment process.*

It is this care in manufacturing that has produced in the Model 12 and Model 97 guns of unsurpassed game-getting qualities that have won the name of "The Perfect Repeaters" among duck hunters.

Write for details of Winchester shotguns, rifles and ammunition

The Winchester catalog is an encyclopedia on shotguns, rifles and ammunition. Every hunter should have one. It gives detailed specifications of the Model 12 and Model 97, and describes at length the principles on which every one of the world famous Winchester shotguns and rifles is built. Write today. We will mail you a copy free, postpaid.

WINCHESTER REPEATING ARMS CO.
DEPT. WS-4 NEW HAVEN, CONN.

HOME DEFENSE LEAGUES!

We have a Winchester for Country and Home Defense Leagues which is meeting with universal approval. Many Home Defense Leagues throughout the United States have already been equipped with this gun,

Winchester Model 97 Hammer Shotgun

Take-down Repeating Shotgun. Made in 12 gauge, weight about 7¾ lbs.; in 16 gauge, weight about 7½ lbs. The favorite with shooters who prefer a slide forearm repeating shotgun with a hammer.

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THE KEYSTONE OF
NATIONAL PROSPERITY

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Experiment Station

Vol. 42—No. 21. PHILADELPHIA, PA., SATURDAY, NOVEMBER 24, 1917. 75 Cents per Year

Developing Purebred Seed Grains

By Prof. R. A. Moore, Wisconsin Experiment Station.

No one factor along agricultural lines has attracted more attention and gives such great promise for the future in Wisconsin as the growing and wide dissemination of purebred seed grains.

The work of seed grain improvement by breeding was started at the Wisconsin Station in 1898. The Hays nursery and Centgener method of breeding, then in operation at the Minnesota Experiment Station, was adopted at Wisconsin and has been continued with other methods since. By the Hays method approximately 3,000 seeds of a given grain are planted in nursery beds with special machine so as to have the plants four inches apart in the bed with border rows which are later discarded and only samples secured from the plants within the border.

A close study of the plants for special characteristics of earliness, disease resistance, yield and quality are made during the growing period, and the heads of twenty plants from the 3,000 are selected for further test. The heads from each plant are put into separate envelopes and weighed and the ten heaviest are retained for the second year's tests.

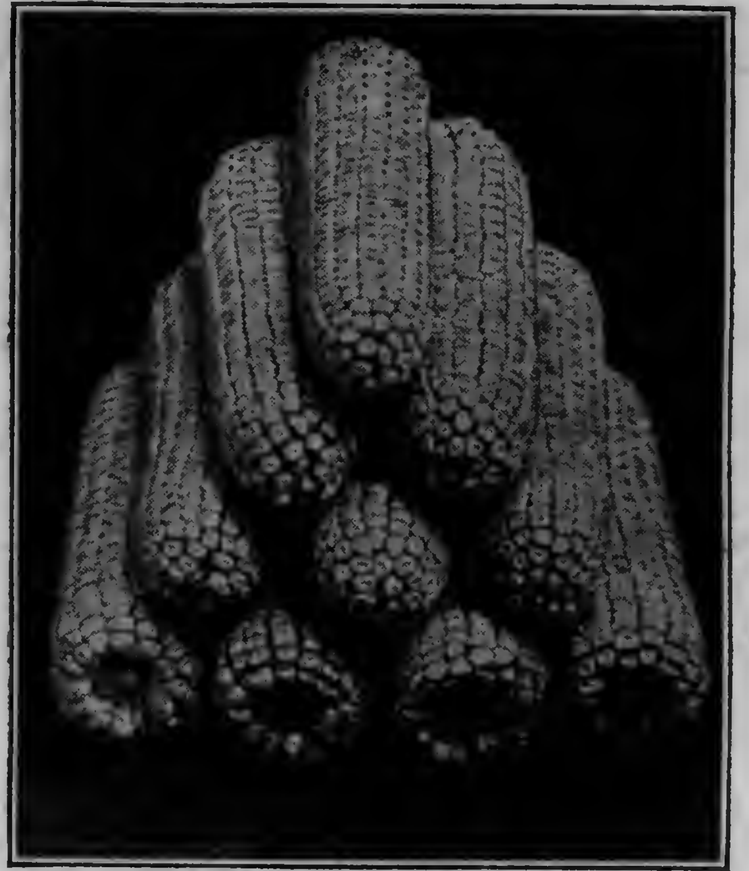
These seed are put into little beds known as centgener plots which contain 100 plants and border rows, each plot having within it planted the progeny of a single seed from the previous year. The first five or six heads are selected after careful study from the best plants in each centgener plot and retained for the following year and the process repeated the third year. The fourth year the entire centgener plots, of which there are ten for each variety of grain, are compared and harvested.

After weight and other factors are determined, six plots are cast out and the four best are retained for the increase plots. The fifth year one square rod is sown which is increased to one-tenth of an acre the sixth year, and the acre-plot is used the seventh year, and the twenty-acre plot the eighth year. After the eighth year the increase is rapid and within five years from the time of having the twenty-acre plot it is possible to have millions of bushels of purebred seeds for dissemination.

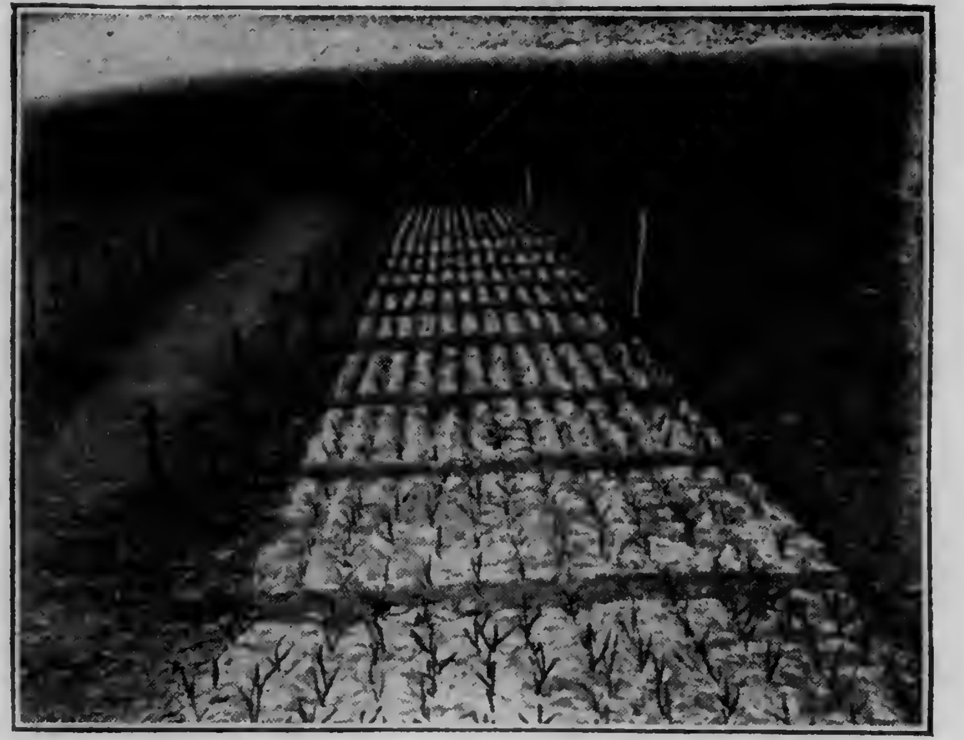
Pedigreed barley, winter rye, winter wheat, spring wheat, and oats have been bred at the Wisconsin Station.

Corn Improvement

Four standard varieties of Wisconsin corn have been bred. Foundation stock was secured from this and several other states and after careful test varieties that admit of improvement were selected for actual breeding. The ear-to-row method of breeding is the one used to greatest extent in Wisconsin. By this method it is possible to get the progeny of one ear out of many that has within it the power to transmit to its offspring its permanent characteristics of higher yield, symmetry of ear and other important characteristics.



Wisconsin No. 7 Corn. Highly Bred Variety



Plants Set and Ready for Careful Observation

Developing Foundation Stock by Cross Fertilization

The variation of yield between ears of corn of the same variety is exceedingly great; in first attempts at breeding some ears of the same variety of corn were able to yield three and four times as much as other ears from the same variety. The yield also of seed ears or ears that are sufficiently good to retain for seed is greater still. By careful breeding it is possible to get a variety to give a yield of five and six times as many seed ears as the variety would yield if no breeding were put upon it. Good seed corn is worth $5 per bushel in the ear when properly cared for. It makes a great difference to the average farmer now on the high priced lands whether he is growing corn worth $5 per bushel or corn worth only one dollar per bushel.

It is also possible by breeding to get a variety of corn to more than double its former yield. The Silver King or Wisconsin No. 7, which is one of the most highly bred varieties in Wisconsin, gives a yield of 30 and 40 percent seed ears, which before improvement did not give more than 6 percent seed ears and the remainder common feeding corn.

Organization of Experiment Association

Early in the breeding work it was clearly recognized that after the select and pedigree varieties of grains were bred there was needed a force of careful farmers to grow and disseminate these grains. To have such a body of helpers for close co-operation, the Wisconsin Experiment Association was organized February 22, 1901. This association is composed of young farmers who have been trained in the College of Agriculture and are competent to handle the purebred grains in the best possible way. The Association receives a state appropriation of $5,000 per year which is used to perform actual work. While the Association is an independent state organization it co-operates very closely with the College of Agriculture in all its work. Thru this body of workers the Experiment Station makes its dissemination of purebred seed grains.

Method of Dissemination

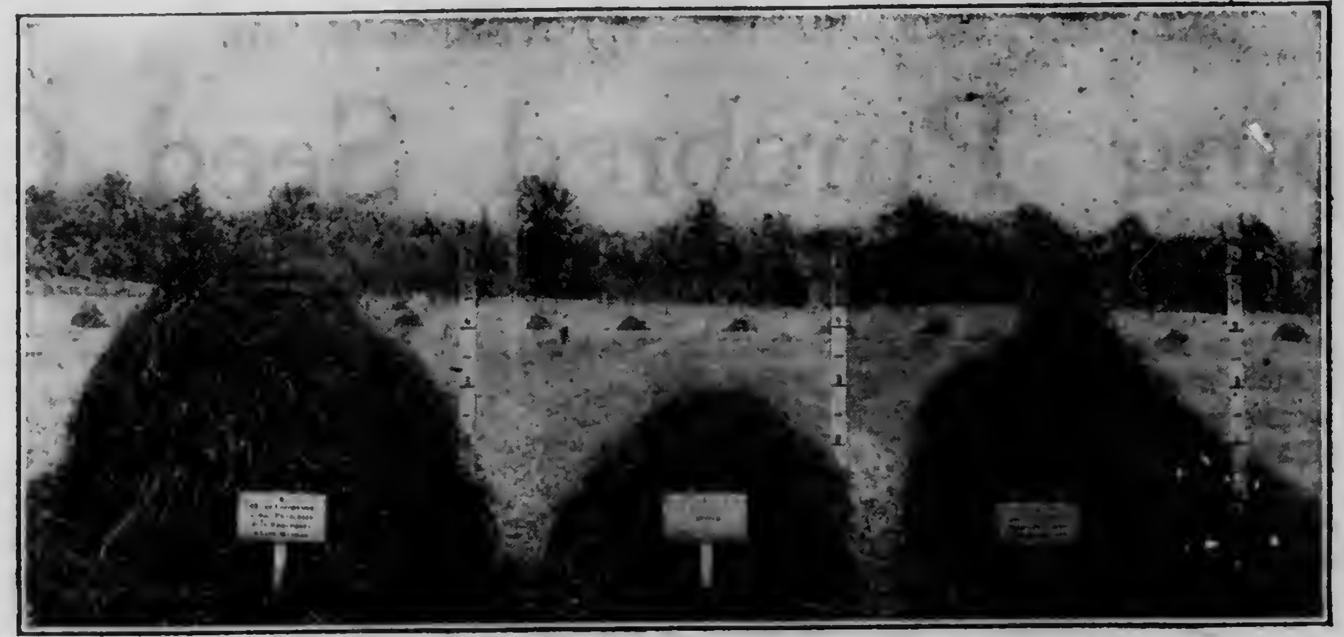
The members are supplied with sufficient pedigree small grains for an acre each or enough corn for two acres, and are required to establish what is known as purebred grain centers. After the first year each member grows sufficient to plant many acres and his seed grain center becomes the source of seed supply for his neighborhood. Thru this system of dissemination we now have practically whole townships growing the same varieties of farm grains.

(Continued on page 3.)

"Bringing Back" the DeKalb Soils

Results of Recent Fertilizer Experiments

Last spring I rode over a section of the central part of Pennsylvania with a successful New Jersey farmer. Coming across parts of Elk and Jefferson Counties, down into Clearfield County, very little good looking farm land was to be seen from the windows of the railroad car. My New Jersey friend had been mentally comparing the view with his section of his own state, and finally remarked: "The Good Lord certainly had a lot of material left over when he finished up this section of the country."



Fertility Test on De Kalb Soils in Snow Shoe Experiment

Central Pennsylvanians have taken an immense quantity of wealth from under the surface of those rugged mountains, and have still greater quantities yet to be taken out in the form of soft coal, building clay, fire brick, etc. With these materials contributing to the wealth and comfort of their people they have not been over-critical of the lack of "pleasant acres" for farming purposes. But even if they are not to be seen from the railroad, there are also many sections in those same counties in which farming has been carried on for years with results comparing most favorably with those on smoother, more easily worked lands of the state.

The soil in all of this region is what is known as DeKalb soil. It has demonstrated its value under good treatment in hundreds of farming communities of the state. It has also demonstrated its ability to "run down", "run out" and otherwise deteriorate to the lowest possible producing power under neglect or misuse. And over 43.5 percent of the soil areas of the state are made up of DeKalb soil. Where coal rights could be sold at high figures, where easier farming lands could be purchased at low rates, and where markets were unremunerative and difficult to reach in years gone by many of the older farms in this region were sold for mineral value and abandoned. The result is that there are vast areas of land in the DeKalb regions of the state that are not being farmed and have not been for many years.

With the growing demands for more profitable farm areas and with the growing prospects of profitable returns for all crop production, there is a growing need of information and demonstration on cheapest and most effective methods of bringing this land back to a state of fertility. This was the problem undertaken by the Pennsylvania State College in experiments at Snow Shoe, Pa. The experiments were started in May, 1916, and the results to date were viewed on November 9 by a gathering of farmers and others interested.

The Snow Shoe Farm Before Experiment Was Started

The results of a little over a year are most surprising. Starting with a barren field that had not been under cultivation for some forty years, and which had deteriorated until it grew nothing but the most hardy weeds and mountain shrubs, any improvement resulting from mere cultivation and the application of lime and a little fertilizer would be surprising. But here were plots covered with a fine bluegrass sod, with bluegrass four to six inches high, and thick enough to afford fine pasturage for any class of live stock. The clover plots naturally did not show their full value at this time of the year, but the figures on production in the following tables tell what the clover is doing to defray the labor and fertilizer bills and leave a nice profit for the operator. The difference between a valueless crop of weeds and a yield of 2,110 pounds of mixed hay gained by the expenditure of $4.87 worth of fertilizer and the labor necessary to seed and harvest, is worth while with hay prices at very low levels. When hay is quotable at $15 per ton and over, it is very much worth while.

The details of the test, together with figures on treatment and results, are given as follows by Mr. J. W. White, who has had charge of the work:

Preliminary studies consisting of small plot tests, pot experiments and soil analysis have shown that these soils tho robbed of their fertility by continuous cropping without the return of any form of plant food, still respond to fertilizer treatment. Limestone and acid phosphate gave an increased growth of over 300 percent of sweet clover as compared with limestone alone. Lime requirement studies showed that over 82 percent of DeKalb soil is acid. The average amount of lime needed on farms that have never been limed was found to be equivalent to 2,670 pounds or 33 bushels per acre.

The preliminary studies showed conclusively that lime and phosphorus were badly needed on these soils and also that potash and nitrogen give increased results. The relative value of these forms of plant foods on the farm soil was found to be as follows: Phosphorus 73, potash 57 and nitrogen 25. The latter was very low in proportion.

As the result of the preliminary studies permanent field experiments were begun in 1916. The field selected for the experiments had been abandoned for nearly half a century and was grown up with sweet fern and jack pine.

Of the experiments started on this field two included a four-year rotation of corn, oats, wheat and grass. Experiment No. 1 consists of ten plots of one-tenth acre each including seven fertilized and lime plots and three untreated plots. Experiment No. 2 included thirteen one-tenth acre plots on which different amounts of phosphoric acid is applied with limestone and with limestone, potash and nitrogen. The purpose of this experiment was to determine the most economic application of phosphoric acid.

The fields were seeded to red and alsike clover in May, 1916. The clover was cut July 18, 1917. The following summary shows the yields, fertilizer treatment, annual cost of fertilizers and value of crops of hay obtained:

The figures in these tables are based on the first cutting of hay. The second growth will be plowed under for the succeeding corn crop.

The winter of 1916-17 was very severe on clover. Most of the red clover was winter killed; the results given are therefore largely on the growth of alsike. When we consider that this field had been left in a depleted condition over forty years ago, the results obtained the first year are very encouraging.

The yields of all the no-treatment plots are mostly weeds with only a few scattered clover plants, hardly enough to weigh. The total yield is, however, given as a means of comparison, for these figures are indicative of the residual fertility of the soil. The other plots include small amounts of weeds not enough, however, to materially decrease the value of the hay. In the manure plots considerable timothy appeared together with some red top.

Experiment No. 1.

Plot No.	Treatment of Plots	Pounds hay per acre	Annual cost of fertilizer	Value of hay
1-5-10	No treatment (weeds)	890	.00	$
2	Limestone	1220	$0.75	8.54
3	Limestone and phosphate	1860	2.37	13.02
4	Limestone and floats	1240	2.37	8.68
6	Lime, and phos. and pot.	2080	3.64	14.56
7	Lime, & acid phos., pot. & nit.	2200	8.44	15.40
8	Lime, acid phos. & manure	2340	4.87	16.38
9	Lime, floats & manure	2110	4.87	14.77

Rate per Acre of Fertilizer Application

Limestone, 3 tons. Acid phosphate, 400 lbs. Acid phosphate with manure, 300 lbs. Floats applied in amounts equivalent to the same money value of acid phosphate. Potash 50 lbs.. (as muriate of potash). Nitrogen, 48 lbs. (as nitrate of soda). Manure, 4 tons. Fertilizer to be applied in alternate years to corn and wheat; limestone once each three rotations.

In experiment No. 1, acid phosphate has given a higher yield than floats, altho the latter is applied in amounts four times that of acid phosphate. The reinforced manure on plot 9 has been the most economical treatment. The phosphoric acid and potash treatment and the acid phosphate with limestone show about the same value. We may therefore conclude that since potash cannot be secured at this time, the treatment given on plots 3 and 9 are to be recommended for clover. The complete fertilizer on plot No. 6 has given

second to the highest yield altho the cost of fertilizer, when the nitrogen is included, is excessive.

Experiment No. 2.

Plot No.	Treatment of Plots	Pounds hay per acre	Annual Cost of fertilizer	Value of hay
1-7-13	No treatment (weeds)	813	$	$
2-12	Limestone	895	0.75	6.44
3	Lime & 150 lbs. acid phos.	970	1.37	6.89
4	Lime & 300 lbs. acid phos.	1420	2.00	10.22
5	Lime & 450 lbs. acid phos.	1680	2.62	12.09
6	Lime & 600 lbs. acid phos.	1800	3.25	12.96
8	L. & 150 lbs. a. phos. & N*K.	1920	7.85	13.82
9	L. & 300 lbs. a. phos. & N*K.	2540	8.48	18.29
10	L. & 450 lbs. a. phos & N*K.	2640	9.10	19.00
11	L. & 600 lbs. a. phos. & N*K.	3020	9.73	23.04

*N—300 lbs. nitrate of soda.

*K—150 lbs. muriate of potash.

In experiment No. 2, the treatment on plot No. 11 has given the highest yield. In each case the yield is in the order of the acid phosphate applied. The 600 pounds per acre of acid phosphate has proven the most economical treatment for the first application These results serve well to emphasize the need of phosphorus on our rundown land.

The farmers of Pennsylvania may well follow these experiments carefully for they promise to be of wide value to those who find their land in a similar condition.

By the Way

By Father Penn

The present year has been one of the most strenuous and trying for farmers in many years. A number of things have transpired to make accomplishment difficult and results uncertain. But in spite of all the drawbacks the greater part of the spring planning has been carried out and, except for the unseasonable freeze in some localities, satisfactory results have been obtained. The fly in the ointment where the season has been favorable is the lack of sufficient help to secure the crops without loss.

Like woman's work, the farmer's work is never done—that is, the farmer who is fore-handed and plans and prepares for his crops away ahead of the actual time of operations. There never was a time when long range preparation was so necessary as now. Everything that must be procured from without for next year's operations must be ordered and provided for soon, as conditions which interfered with the easy and successful conduct of business this year will probably be still worse next season. Among these may be mentioned seed, fertilizers, lime and machinery, in fact anything which requires transportation and time for manufacture.

The matter of freight congestion on the railroads—the most acute and general condition of the kind ever known—will no doubt continue for months to come, and freight shipments will cause a great deal of loss and annoyance unless orders for needed material are given far in advance of the time they are actually needed. For instance, they who contemplate buying incubators and brooders for use in February will do well to order them now. Those who have had experience lately in ordering by local freight can testify that the time is not too long. We mention this example because such equipment generally comes by local freight, and also because the indications are that a great many people will be ordering incubators and brooders for next season, owing to the scarcity of hens, the high price of eggs and the desire to increase poultry products.

Another matter for immediate consideration is that of preparing to order fertilizers early. Even when ordered by the carload—and they should always be so ordered—it may require several weeks to secure them. Granges, farmers' clubs, etc., should have their orders ready to send in by the first of the year. Not only should they be ordered early on account of the freight conditions, but since the materials are difficult to obtain the manufacturers should know something about the probable demand so as to manufacture accordingly. Some farmers may hesitate about using fertilizers under present conditions, but, so far as they can be obtained, it is just as important and economical to use them now as when their cost was lower. Some of the most essential elements have not advanced as much as has the price of grain.

So far as it is possible, farm help for next season should be arranged for now. This is easier said than done, but labor will be the limiting factor in next year's farming operations. Farmers everywhere should make their needs known in a way that will bring the seriousness of the situation to the attention of the authorities. Pass resolutions and write letters and send them where they will count. Ignorance in regard to this matter seems to be as dense as midnight in some quarters and it is up to the farmers themselves to let in a little light. Good farm hands should be kept by giving employment thru the winter.

Developing Purebred Seed Grains

(Continued from page 1.)

Eighteen years ago Wisconsin was growing scores of breeds and types of barleys. Often a farmer would have no less than four or five distinct varieties of barley or oats in a single field. The grain produced was of a mixed grade and when put on the market was unsatisfactory and was cut in price accordingly. After 10 years of growing and dissemination of two varieties of Pedigree Oats we estimate that over half of all the oats grown in Wisconsin is of those two varieties. In the same way has the Pedigree Barley been disseminated, until over 90 percent of all the barley in the state is of that one breed.

Five varieties of corn have been bred and disseminated, viz: Golden Glow, Silver King, Clarks Yellow Dent, Wisconsin 25 and No. 8, which have proven far superior to the common varieties and are now being eagerly sought by the farmers in Wisconsin.

Good Crops Interest the Farm Children

We now have a membership in the Association of approximately two thousand, nearly all of whom are active seed grain growers and some have already built up a large select seed business and have surrounded themselves with all the conveniences for handling the select seed grains in large quantities. The members of the Association are not allowed by the organization to charge exhorbitant prices which would work a hardship to the farmer, but merely allowed to make a legitimate profit for extra care, etc., given to the seed crop. By following the method of having these seed grain centers established in practically every township of the state, it brought the select grains in close proximity to the farmer where he would have an opportunity to study the grains while growing and see them threshed before deciding to grow them on his own farm. Many farmers will study a cornfield or a grain field beside the road when it would be a hardship for them to study corn from the printed page.

There seems no doubt that more has been accomplished in the way of introducing alfalfa in Wisconsin by a thousand members running alfalfa experiments thruout the state in close proximity to the main traveled roads than all the bulletins we have ever sent out on that subject. One of the best ways to keep our young men on the farms is to give them an opportunity to think and to have as good or better earning capacity on the farm as elsewhere in life. The growing and selling of select seeds in the state has been the means of keeping hundreds of young men on the farms and also has been a chief factor in determining the taking of a course in the College of Agriculture so as to enable them to join the Association and get into the business.

One member of the Association, when asked at the last annual meeting as to the amount of seed grains sold during the year up to February 4th, replied that he had sold over $20,000 worth. Several more are selling nearly as much and some more than that amount.

County Orders of the Association

On account of the large membership of the Association, over 2,000 scattered so widely thruout the state, it was deemed advisable to organize local associations in those counties that had fifty or more regular members. Fifty-seven counties are now organized. These organizations are known as County Orders of the Experiment Association and are officered similar to that of the State Association.

Seed Inspection

A farm and seed inspector is appointed by the State Association who receives his pay from the State Association for his services. His duty is to visit all farms upon which purebred seed grains are grown. He is expected to give advice to the local members in regard to facilities for growing and handling seed grains and report to the State Association. The purebred seeds that pass inspection, together with the name and address of the grower, are listed. No grain except that which comes up to a required standard is listed. All members having grains passing inspection are allowed to use special Association tags for the shipment of such grains. This practically puts the Association back of the shipment and makes the Association morally bound for the purity and quality of the seed. The tag is conveniently arranged so that the necessary facts required by the state seed inspection law can be conveniently entered.

By exercising close supervision, poor grains are kept out of the market. The Wisconsin pedigree and select seed grains are now known everywhere. Foreign countries as well as all grain raising states in America are buying Wisconsin purebred seeds.

The various County Orders of the Association hold at least one regular annual meeting and such special meetings from time to time as the work in hand demands. The Orders assist in making their respective county fairs of a more educational character and they also take an active part in state and national competitive displays of grains and forage plants. The Secretary of each County Order keeps in close touch with his members and directs them as far as possible in the line of effort that will be for their general interest. We are now electing as Secretaries of the Orders our County Agents as far as possible. Leaflets listing purebred grains are published from time to time, which aids materially in finding a market for the different grain products found on the farm.

By the methods above mentioned the Wisconsin purebred seed grains have become known far and near over the entire world and the revenue now coming to our state from the sale of these select grains goes a great way in gladdening the hearts of the seed growers and helps solve that great question which is now before the American people of how to keep the boy upon the farm.

Manure losses may be reduced to a minimum first, by hauling it directly to the field with a tight-bottom manure spreader and spreading it thinly and evenly as a surface dressing on grass, clover, alfalfa or small grain fields, or on land which is to be plowed for corn, cotton, or other intertilled crops; second, by keeping the manure compact and moist in stables, sheds, or pits until ready to haul; third, by having tight floors in the stable or feeding pens; fourth, by using plenty of bedding to absorb the liquid manure, or by saving the liquid manure in cisterns built for the purpose; fifth, by the use of preservatives, such as ground limestone, land plaster, ground phosphate rock, and acid phosphate. The materials not only absorb the liquid manure and take up ammonia thus acting as a manure preservative but at the same time they reinforce the manure with phosphorus and lime, the very elements required to balance manure and make it a complete fertilizer.

Interstate Association Notes

Suggestions by Secretary R. W. Balderston

The stockholders of the Inter-State Milk Producers' Association have all been sent notices of the annual meeting with proxies enclosed. The date is Monday, December 3, 1917, at 10 A. M., and the place is the Bourse Building, Philadelphia, Pa. To reach building take any surface or subway car on Market Street and get off at 5th Street, walking south one-half block. The meeting will be held in the Assembly Room on the second floor.

This notice calls for an election in the morning of five directors. President Willits, Vice-president Allebach, and Messrs. Frey, Showalter and Book are those whose terms expire this year, they having been elected for the period of one year when the Association was organized. During the morning the financial report will be made by the auditors in conjunction with the secretary and treasurer. The Association will also discuss a number of matters that have claimed the attention of the Directors for the past year.

R. W. Balderston, Sec. Inter-State Milk Producers' Association.

The afternoon meeting will be public and will be addressed by Milo D. Campbell, of Cold Water, Mich. Mr. Campbell is President of the National Federation of Milk Producers and will give us an insight into the National situation. He is a delightful speaker and we want him to face a full house. Mr. Willits will present a report on behalf of the Board of Directors, summing up the results of the year's activities. The market conditions have been so abnormal that one could never see far ahead, and yet changes have been constant during the past year. The Directors have sought to meet these changes as promptly as possible and to face these conditions as they actually exist. It has taken much time and effort to get information of real value in regard to the national situation. The president will touch on all these points in their local application but will leave the general consideration of them to Mr. Campbell.

This age is one of organization and every business interest is expected to have an Association or a group of associations to speak for it. One cannot but wonder what would have become of the dairyman if he had failed to fall in line (albeit somewhat tardily). Mr. Campbell is in very close touch with Washington; in the past he spent a considerable part of his time there, and hence can give us the very latest news relative to the dairyman and his relation to the Government in these war times.

Price Changes

With each price change the Association has been able to put it into effect in an increasing number of nearby markets. There have, however, been some abnormal conditions in certain districts that will necessitate patience and perseverence on the part of all to meet them satisfactorily. It looks very much as if Philadelphia could not look toward the east for much of its supply, at least for some time to come. The labor shortage, increasing costs and competing markets have apparently driven may nearby farmers out of the "direct shippers" class. The small dealers have been competing for their product and it has been possible for a few producers to secure a price for untested milk that is above that which their neighbors receive for milk of equal quality sold subject to test. This naturally leads to some dissatisfaction.

On the other hand, our farmers must realize that there is always some equalizing factor involved in these apparent discrepancies, and also let us remember that the Association never objected to any dealer paying more than the agreed price. There are some dealers who never carry surplus and hence can afford to pay more. They have always cut some farmers off when milk became plentiful, and added on new ones when the market grew bare. Of course, the Association strongly objects to this practice. Some farmers have sold their milk to irresponsible or dishonest dealers, who held out the inducement of an extra price for untested milk. These can testify to their sorrow that it does not pay, and the Association is endeavoring to put its members on their guard concerning these.

All local officers should endeavor to keep in touch with the office of the Association, so as to be able to pass on to the individual stockholders the help which is needed. We modestly omit any reference to individual activity, but wish to emphasize that the value of united effort has been demonstrated many times the past year and the Association has proven its strength.

New Drive for Membership

Many of our members have felt disturbed because some of their neighbors have failed to join the Association and yet are enjoying all the benefits of its protection. Of course, we have all been accustomed to seeing some people carry other peoples' loads along with their own, but in these days of co-operation the term slacker is not a popular one. The Association is planning a new drive for membership during the coming winter, carrying a new proposition into new territories and making our lines more solid in all sections. The applications for speakers and canvassers should be made to the central office as soon as possible and in so far as we have men available they will be sent out in response to these inquiries.

WAR TIME RATIONS

Following are more war-time rations for dairy cows suggested by Professor Rasmussen, of the Pennsylvania State College:

Ration No. 5. When roughage is clover hay and corn stover:

Lbs.	Feed	Lbs. Protein	Therms Energy
250	Corn and cob meal	14	190
100	Cottonseed meal .	32	90
50	Gluten feed	10	40
50	Linseed meal ...	14	44
450	Mixture contains	70	364
100	Mixture contains	15.5	81

Energy Ratio 1 to 5.2. To a Guernsey or Jersey cow, feed 1 lb. grain for every 4 lbs. milk. To an Ayrshire, Holstein, or Shorthorn cow, feed 1 lb. grain for every 4½ lbs. milk.

Ration No. 6.—When the roughage is clover or alfalfa hay:

Lbs.	Feed	Lbs. Protein	Therms Energy
200	Corn and cob meal	12	152
100	Ground oats	9	68
100	Gluten feed	20	81
400	Mixture contains	41	301
100	Mixture contains	10.3	75

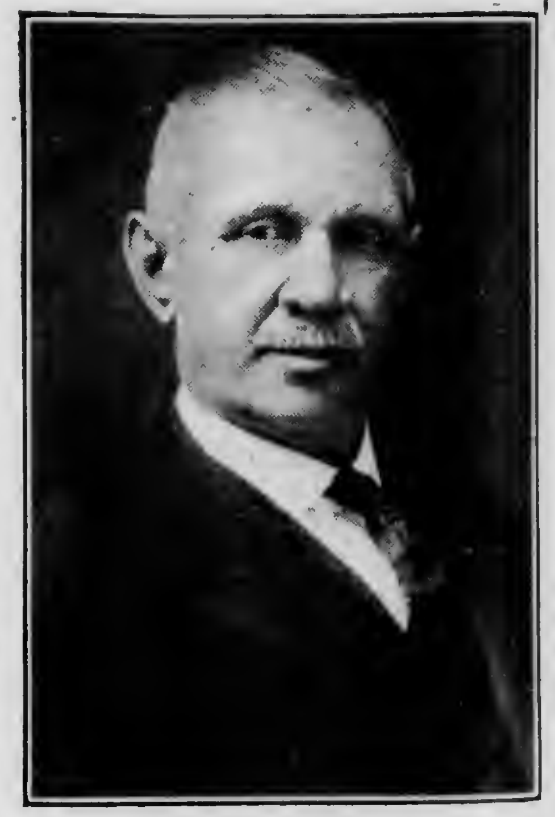
Energy Ratio 1 to 7.3. To a Guernsey or Jersey cow, feed 1 lb. grain for every 4 lbs. milk. To an Ayrshire, Holstein or Shorthorn cow, feed 1 lb. grain for every 4½ lbs. milk.

Ration No. 7.—When roughage is clover or alfalfa hay:

Lbs.	Feed	Lbs. Protein	Therms Energy
250	Corn and cob meal	14	190
100	Wheat bran	11	53
100	Gluten feed	20	81
450	Mixture contains	45	324
100	Mixture contains	10	72

sey or Jersey cow feed—..—..—..

Energy Ratio 1 to 7.2. To a Guernsey or Jersey cow, feed: 1 lb. grain for every 4 lbs milk. To an Ayrshire, Holstein or Shorthorn cow, feed 1 lb. grain for every 4½ lbs. milk.



Milo D. Campbell, Pres. National Milk Producers' Federation.
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Ration No. 8.—For pasture grass feeding to about July 15:

Lbs.	Feed	Lbs. Protein	Therms Energy
100	Bran or Distillers C. G.	11	53
100	Corn and cob meal or oats	6	76
50	Cottonseed meal .	16	45
50	Gluten feed	10	40
300	Mixture contains	43	214
100	Mixture contains	14.2	71

Energy Ratio 1 to 5. To a Guernsey producing over 20 lbs. milk feed 1 lb. grain for every 5½ lbs. milk. To an Ayrshire, Holstein or Shorthorn cow, producing over 25 lbs. milk daily, feed 1 lb. grain for every 6¼ lbs. milk.

Eliminate Disease; Make the Cow Productive

If your cow is not giving the quantity or quality of milk you expect, it is time to give her medical attention.

For twenty-five years thousands of dairymen have used Kow-Kure as their "first aid." Particularly before and after the calving period, the use of Kow-Kure is valuable. It is a sure preventive of Milk Fever and Retained Afterbirth, and will enable the organs to resist the diseases which frequently originate at this time.

Kow-Kure has a positive action on the genital and digestive organs, toning them up, making them perform properly and helping the system to function as nature intended. Kow-Kure has proven a prompt remedy for Abortion, Barrenness, Scouring, Lost Appetite, Bunches and other common ills.

A small investment will prove the worth of Kow-Kure in your dairy. Put it to a severe test; try it on your poorest milker and watch results. Druggists and feed dealers sell it; 55c and $1.10 packages.

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The New York Milk Market

League Activities and Market Tendencies

The condition and activities of the milk market for New York City have been matters of interest to all of us in the territory and to outsiders as well. In a way we have known but little more of the situation than those outside. There has been so much of uncertainty that no one could even give a very intelligent guess as to the outcome. Less than a week ago I had a talk with the industrial agent on the O. & W. R. R., and he gave it as his opinion that the November price for milk would be the same as that for October, altho the price had been agreed upon in September as being 24 cents higher. He may be prejudiced in favor of the dealers but I do not think he intentionally gave a false impression of the situation. Now it is certain that no reduction will be made from that agreed upon and the dealers have agreed to keep the retail price the same as for October for another week at least, perhaps for the month. No milk has yet been sold later than the first of December.

Closed Shipping Stations

Much excitement has been in evidence relative to the closing of plants by the dealers. Over a hundred have been closed according to reports and I am prepared to accept the statement. It seems that half of these ought to be closed. For example, we have in our town two Sheffield plants costing a lot of money, both of which are closed. Another concern takes all the milk and would take the most of it if these plants were to be opened. When the Sheffields bought the second plant they evidently thought to corner the milk business here. That prejudiced farmers and that is one reason that both plants are idle now. In the next town a Borden plant is closed, but it received but little milk before, and the farmers in both towns have as good a market for their milk as they can have by any process. It is authoritatively estimated that half of the plants ought to be closed. Occasionally there are some that should be running.

In one case a plant belonging to a big milk concern was closed the first of October, much to the discomfort of the farmers, who had no outlet for their milk. After a little delay the farmers secured a subscription of $9,000 to construct a plant of their own. Then a committee went to New York and interviewed the owners of the station already there, informing them of the action taken and asking if they would sell the building and equipment at a reasonable price. The company decided that they would not sell but would open the plant. The committee stated that every former patron there had agreed not to patronize the concern but would buy at a fair price. It was a case of sell or submit to the erection of a co-operative building next to their own with a set of determined and aroused farmers in charge of affairs. They sold their plant!

Surplus of Milk

It has been stated that there is a surplus of milk, and there seems to be some surplus. This is believed to be owing to the advance in price made by dealers, and which is regarded by producers as unwarranted. The public in the city seems to be getting wiser relating to the matter and are not blaming dairymen to the extent that they did; and, moreover, they are commencing to buy better. At any rate it is confidently predicted that within a week, and before this can reach the reader, there will be a shortage of milk in New York. There has been a week of conferences between the Dairymen's League, the dealers and authorities, both state and national. So far as I can determine, the League has won out for the most part. The national authorities have agreed to say after making investigation what they think about the situation, and in the meantime have asked both the League and the dealers not to change prices. The League readily agreed to this and the dealers reluctantly have done so, according to reports.

Our State Commission on Foods, that seemed unnecessary to us, has taken what seems to be fair ground. Pres. Schurman, who is chairman, has come out in a statement at the conference that the farmers are selling milk at the cost of production without the percentage of profit that is allowed manufacturers and dealers, and it now seems certain that Mr. Mitchell, who has been an enigma to producers since his appointment on the food commission, has taken the position of a broad and fair-minded man. Perhaps we need not complain of the commission and its creation as much as we have been doing. Time will tell.

Co-operation Growing

As to the question relating to the proportion of farmers who do not receive League prices for milk, I can say but little. Personally I do not know of any, but I do know that there are a few places where plants have been closed and where the farmers have no good market for their milk. I do not think that the percentage is large, and it would not surprise me if these places should have some sort of a good market by the first or the middle of December. Here again, time will tell. For the most part the closing of plants where there is no other outlet for milk is believed by farmers to be for the purpose of breaking holes in the League, but if I am not mistaken it is having a strengthening effect, and is causing the formation of co-operative associations to a considerable extent.

Even in localities where there is a market, the co-operative idea is a growing one. The League has two plants in New York City now, where it is disposing of large quantities of milk and is cutting into trade of the big dealers considerably. The association of co-operative companies outside is having trouble to keep a supply for these plants to sell, and as a rule we are told that these plants are getting more for milk than the League prices that were fixed with the dealers. I have just been talking with one of the executive committee of the League who came from the city and from the conferences only a day or so before. I am saying some of the things that he stated, but perhaps am not quite so enthusiastic as he was. My report is made much more optimistic by his statements, and I will caution the readers to use a little discretion lest some of these remarks be too optimistic. The statements are as authoritative as I can get. I am hoping for the best. There may be some disappointments yet. — H. H. Lyons, Chenango Co., N. Y.

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PHILADELPHIA, PA., NOVEMBER 24, 1917.

Thanksgiving It is a good thing to give thanks unto the Lord. How sharper than a serpent's tooth is an ungrateful child. So run two old proverbs. They were probably crystallized from the accumulated experiences of mankind. They have been preserved thru the past because men found them to be true, and they are cherished today because we find them true. They imply that a thankful spirit is a necessary attribute of a normal being. The parent who sees his child accept every favor as a matter of course, entirely ignoring the giver, is made sad by the evident selfishness of the child. It is this knowledge that cuts like "a serpent's tooth". It is evidence of the poverty of the child's soul. The first declaration quoted above is based upon the same truth—that a spirit of thankfulness is a happy possession, because the "good thing" comes to the thanks-giver.

We make special effort thru our systems of education to develop appreciation for what we find about us. We are taught to appraise things, to recognize opportunity, and to so use our powers that we may appropriate what we find to our use and pleasure. We try to train our esthetic natures so that we may enjoy art, music, companionship and the beauties of Nature. All this is appreciation, and is good so far as it goes; but it is not enough. The worship of nature and the enjoyment of worldly pleasures—if we stop there—is but living on a low plane. He who, while seeing and enjoying all these things, also recognizes that behind the mystic curtain is the Creator and that to Him we are indebted for the blessings, such a one finds his heart overflowing with thankfulness and experiences the joy that comes to the devout soul. Appreciation of blessings is but half our duty; it requires a spirit of thankfulness to make our joy full. Such feeling must be cheerful and spontaneous. Merely formal, perfunctory lip service is dishonest and valueless.

* * *

Let's Have Consistency Everybody appreciates consistency, or at least quickly notes inconsistency in others. Most people endeavor to be consistent, if for no other reason than to escape criticism. This is by way of calling the attention of the Food Administrator and others in authority to the cause of a great deal of criticism they are just now receiving.

For some weeks, sugar has been a household scarcity. People have been put to great inconvenience and have had to limit, if not eliminate, its use in some ways. The manufacturers of sweets are hampered at an inopportune time, and no relief is in near view. Two things, fats and sugar—the one often despised and the other formerly considered a luxury—are now found to be of such primary importance that the fate of nations hangs upon them. The human system simply must have fats and sugar. There is no such urgency for beer, yet with all the limitations as to the use of sugar, the making of beer goes merrily on without threat or hindrance, so far as we have learned, using millions of pounds of sugar in the making of a product which is not only useless but harmful. The food value of the grain and sugar used in its manufacture, we are told on good authority, is either destroyed in the process or is left in the by-product.

Why not stop the use of sugar for this purpose? We are informed that there was used in this country last year 340,000 tons—680,000,000 pounds—of sugar in the making of beer.

This is why men and women are justly demanding that the Food Administrator be consistent in his appeals for economy and conservation in food materials.

"Consistency, thou are a jewel."

* * *

Soil Experiments The soil experiments conducted by the Pennsylvania State College at Snow Shoe, Pa., discussed elsewhere in this issue, are of close vital interest to farmers on nearly half of the land area of the state. The growing of clover by the use of lime, manure and fertilizers, particularly acid phosphate, is not new to many good farmers on DeKalb soils. The results in the College experiments verify the wisdom of the practice used by these farmers. But the College work has been on a plot of ground that had been subjected to more neglect than any that our farmers have yet attempted to work. The results from the first year are remarkable, and demonstrate that the rebuilding of this soil is not the task that was supposed. The financial returns indicate that it is possible to bring considerable areas of this soil under cultivation in comparatively short time and make them pay their way. The results from the rotation plots will give more definite answer to this question.

The returns to date make the possibilities of pasture development the most alluring. The article shows, as did the plots themselves, that a good stand of bluegrass can be obtained in a short time. The seeding was done after plowing, but it is entirely practical to apply the same fertilizer and lime treatment that was given the experimental plots, and merely scratch the surface soil enough to enable the seed to get a foothold. Much of the DeKalb areas are too rough to invite cultivation. But if they can be made to grow the kind of bluegrass that is to be seen on the plots at the present time, they offer wonderful opportunities for pasturage. Some may well raise the question as to whether or not this soil will continue to grow bluegrass for a period of years. The native grass over the greater part of the DeKalb section is what is known as jute grass or white top. Will this native grass crowd out the bluegrass in a year or two? The experiments will tell. But even if they do, the jute grass makes splendid pasturage when properly handled.

The Snow Shoe experiments emphasize the need of more work of this kind on other types of soil in the state. It is announced that the College contemplates locating three and possibly four other experimental plots in different sections. There is need of this work, and it is to be hoped that this initial step will lead to a wider field of practical research work in the state.

* * *

Bonds for the Common People The buying of bonds and other first-class securities has always been the special privilege of the well-to-do in this country. No opportunity in the way of bonds of small denominations, or with installment features, has even been provided for first-class, legitimate investment by the individual with small means.

The necessity of floating immense loans in this country at the present time, and the desire to have the bonds distributed among as many people as possible has led the Government to provide for the issuing of "war-saving certificates". These are, in fact, bonds with some little differences attached in the way of interest credits and the possibility of purchase on the installment plan. These "certificates" may possibly be issued in denominations as low as five dollars. Such a plan would enable thousands of people to invest in government securities who feel that they cannot buy $50 or $100 bonds.

The importance of this plan does not lie entirely in the possible stream of money which may be expected to flow steadily in for the Government's use, but probably the greatest benefit would come to the people thru the opportunity to make small savings and put them into absolutely safe investments. There are millions of people who make no investments in anything except for immediate personal use—hence nothing is laid by for the proverbial and inevitable "rainy day".

If such a scheme is feasible for the government, why not for corporations? If the common people were to have even a small "vested interest" in the Government and the "big business" of the country, a more active and intelligent interest in their welfare would develop in the popular mind Let the mail service be the carrier, and the so-called Postal Savings Bank be developed into an institution for popular use and benefit instead of a pretense, and the government may have plenty of money, railroads and other public necessities could be properly financed, and the people be induced to develop and practice the much-needed thrift.

By all means, let us have popular bonds of small denominations.

* * *

Better Seeds The article on the first page of this issue is the first of a number that we will publish during the coming winter months on the subject of better seeds. This first article deals with the improvement of seed grains. Wisconsin has probably done more than any other one state in the improvement of seeds, and its most valuable accomplishments have been made thru the organized work described. Other articles in the series will deal with similar work with vegetables, potatoes and forage crops.

Suggestions are being given in unlimited quantities on how to improve and increase crop production. But most of these call for the use of more equipment and labor, both of which are very expensive or impossible to secure. The improvement of crops thru the use of better seeds calls for no more labor, no more equipment and no more acres. Such improvement is the easiest and cheapest to be made. Watch for other articles in this series.

* * *

Common Ground A number of readers have sent us clippings from daily papers quoting a Chicago banker as saying, among other things of a similar nature, that "the weak spot in the war situation is the attitude of the farmers. They will neither buy Liberty bonds, pay taxes, sell their produce, nor fight". Readers hope that we will answer this false and slurring charge. The charge is not worthy of a reply. Such a statement could come only from a man ignorant of the true conditions, one malicious in his ignorance and unpatriotic in the needless development of class prejudice. There may be a quality in this man's class that sets it apart from the rest of human kind, but we doubt it. Certainly there is mighty little difference in human nature in city or country. The farmers are just human beings, as are their fellowmen in every walk of life. As a class, they are just as quick and just as slow to respond to the call of human needs as any other class. They pay their assessed taxes just as willingly and just as grudgingly as any other class. They are just as patriotic as any other class, and no more so. They have the same virtues as other men and the same weaknesses.

But we have passed the time for class comparisons in the common call of the great war. There are but two classes in this country today—the loyal and disloyal. There are and will continue to be differences of opinion. There must be differences in the kind and quality of service rendered. But all service is needed and all must contribute to the common cause. The farmers have a most important task to perform in the production of food. They must farm better than they have ever farmed before, and they must do it under less favorable conditions of labor and expensive equipment than they have farmed for many years. Other men of other work have their duties to perform. They must do their work better than they have ever done it before, and they will have new difficulties to meet. There will be little time and less place for class prejudice. We are all Americans and must support the cause of America to the limit of our ability.

HARRISBURG NOTES

The Labor Situation.—State officials, who have been aroused to the situation existing on many farms where shortage of hands has prevented the gathering of thousands of bushels of potatoes and delayed the husking of immense quantities of corn, are working on plans to provide labor for the farms of the state the coming spring. The subject will be taken up with national authorities so that whatever is done in Pennsylvania may be in line with the Government's plans, and with men active in affairs in various communities. It is recognized that between the war activities and the demands of industries that the situation in cities is also complicated and if the plan of mobilizing men for ship construction this winter works out it may suggest a way to meet the serious state of affairs in the country. Just at present, efforts are being made at the capitol by men in touch with agricultural matters and the state employment agency to formulate a scheme for community labor control. There have been some spasmodic efforts in this direction, but no system, and labor has not been available when most needed. The situation in the state, as reported here, is that thousands of acres would have been planted with grain this fall, and the weather has been unusually well adapted to late work, if hands had been available; projects for clearing land have been made ready, but no one is to be procured to undertake it on a scale desired and the outlook for the spring with another draft call in prospect is that there will not be enough hands to meet farm demands unless some system is evolved.

Figures on Two Crops. — The State Department of Agriculture has compiled some figures on the corn and buckwheat crops by bushels, following its compilations on wheat, oats and rye issued a short time ago. Neither one is what was hoped. The corn, which was hit by labor shortage, grasshoppers, weather and frost is estimated at 65,260,885 bushels. It may be less, and will run disappointing is some good corn counties. Buckwheat, which suffered very much from the September frost, is estimated at 5,570,000 bushels.

Silos and Tractors.—Figures compiled by the statistical bureau of the Department of Agriculture, from reports of over 600 township and district crop reporters, show 28,500 silos in the state, an increase of thirteen percent in a year. The new construction was mainly in the northern counties. There are 1,080 tractors reported, showing 500 bought this year.

Hogs in the Cities.—From what is said by some men connected with the state government there is more or less regret among city folks that they have legislated hog raising to the country. In fact a pig in a parlor is not as much of a joke as before, even among those who have been demanding that porkers be relegated to the far fields. In practically every city, garbage is going to waste and even collection systems are showing signs of strain. The result is that valuable hog-raising material is being lost. It is possible that some cities will relax their ordinance restrictions.

Lehigh Loses First Place.—The detailed report of the State Department of Agriculture on potato raising on the farms of Pennsylvania shows that Lancaster, which led in wheat, has taken first place in potato raising, nosing out Lehigh which has long been leader. However, Lehigh has the distinction of showing the largest acre-yield of 324 bushels. The report of the Department shows a yield of 30,633,000 in round numbers with some account being taken of bushels in the ground. The average yield is 99.5 bushels, the best in many years.

The Car Situation.—Federal and State food authorities appear to have obtained results in their investigation of charges that cars were being held in big railroad yards, detained by people paying demurrage charges to avoid having to put produce on markets and being subjected to unfair delays in view of demands. In Philadelphia cars filled with various sorts of stuffs were forced to unload and a time limit was arranged. In Pittsburgh the embargo on movements was raised and in smaller communities things began to move.

Blister Localized.—According to the people in the economic zoology division the outbreaks of the white pine blister rust have been localized and a careful watch is being maintained to prevent spread.

Medical Inspection Work.—Organization of medical inspection in the rural communities of Pennsylvania has been carried on more thoroly this fall than ever before and practically only a few dozen districts are without supervision. The inspection has become a part of the system of education and the State Health Department men say that it has been beneficial. — Hamilton, Harrisburg, November 19.

NEW JERSEY FARM NOTES

State Board Meeting.—The annual meeting of the State Board of Agriculture will be held January 22-25. It is expected to be the largest and most important event of an agricultural nature in this state in years. Food producers from all parts will confer here on problems of the farm and means for increasing the food supply in the face of the serious labor and fertilizer shortage. There will be programs of especial interest to the dairymen, poultrymen, hog raisers, potato growers, orchardists, beekeepers, general farmers and housewives. The State Board of Agriculture will hold its annual convention on Wednesday, January 23. Features will be addresses by Governor Edge, United States Senator Joseph S. Frelinghuysen, who is President of the Board, Secretary Alva Agee, of the State Department of Agriculture, and speakers of national prominence. In connection with the conferences there will be a big exhibit in the Second Regiment Armory, including shows by the State Poultry Association, State Horticultural Society, the State Alfalfa Association, and the Home Economics Clubs.

Road Matters.—Nearly $3,165,000 will be derived from the first levy of the direct state tax for roads at the rate of one mill on the dollar. Plans are under way now for the inauguration of work on one hundred miles of the new $15,000,000 State Highway System, as soon as the frost leaves the ground next spring. In addition to the amount to be derived from the road tax, approximately $2,000,000 will be derived from the receipts in the motor vehicle fund. This money will be available for apportionment to the various counties for repair work to be done thru the system of State aid. The allotment for repairs for the past year so far has totalled nearly $1,500,000. The new highway plans include fifteen routes extending to all parts of the state.

Hunters and Fires.—With the opening of the gunning season, Governor Edge issued a request to all hunters to co-operate with the state in preventing forest fires. A number of blazes were reported from the woodlands of the state after the season opened, and this prompted the Executive to ask the gunners to be careful about fires when in the woods. The situation was made more acute by the lack of rain for several weeks past and the heavy fall of leaves together with the high winds.

Crop Reports. — The acreage of wheat sown this fall, compared with that of last year, is 105 percent, and a comparison of the year's rye acreage shows 1917 to be 106 percent. The report says farm labor continues scarce and high. Some corn in the northern part of the state remains unharvested. In certain sections unfavorable weather conditions and the scarcity of labor delayed farm operations, especially the seeding of grain and harvesting of corn.

Legislative Prospects.—The next session of the State Legislature, which opens in January, will be one of the shortest, if not the most brief; in the history of the commonwealth. Governor Edge in conference here with the members of the Republican majority declared it should not run over eight weeks. . This suggestion will undoubtedly be carried out. State Senator Thomas F. McCran, of Passaic, has been elected Senate President by the majority Senate caucus, and Emerson L. Richards, of Atlantic, a "wet" defeated Senator Harold B. Wells, of Burlington, a local optionist of the ardent type, for majority leader of the next upper house. In going over proposed legislation to be considered this winter with the Republican members, the Governor, among other things, urged the continuation of the commission now studying the question of the elimination of toll bridges in New Jersey. An appropriation for its work will probably be given this winter. Regulation of foodstuffs will also be a subject for consideration at the coming session, it is expected.

Equal Suffrage.—"New Jersey for equal suffrage in 1920." With these words as a slogan the 27th annual convention of the State Woman's Suffrage Association closed in Trenton. The women were beaten on this question in New Jersey in 1915 by 50,000 majority.—L.

NEW YORK NOTES

State Dairymen's Association. — The 41st annual convention of the New York State Dairymen's Association to be held in the Armory, Syracuse, Dec. 11 to 14, inclusive, is expected to be a record breaker for interest and attendance because of very important questions to be presented for settlement at that time. Geo. F. Hogue, of Arcade, president of the Association, promises one of the largest modern exhibits of dairy and farm machinery ever shown in the state; also, a fine exhibit of dairy products, for which liberal premiums will be awarded. The standardization of milk is one vital question to be acted upon. On December 13 and 14, a sale of high-class registered Holsteins will be held, comprising 150 head consigned by leading breeders of the Eastern States.

To See Ditcher. — All Cayuga County farmers interested in drainage have been invited to attend a demonstration of a power ditcher at Slatersville this week, the machine being furnished by the State Food Commission. If they are pleased with its work the ditcher may be secured for work in the county next spring. The commission offers to dig a ditch 2½ feet deep, bottomed and graded ready for tile, and 15 inches wide, at 50c a rod.

New Canadian Oleo Law.—New York State farmers will be interested in the local effects of the removal of the Canadian ban on oleo, to take place November 14. After that date it will be legal to import, make or sell oleo anywhere in the Dominion. It is expected that more butter will be sent here from Canada in consequence.

New Food Commission. — More than half of the $500,000 appropriated by the Legislature this year for the new food commission has been turned over to that body by the state defense council, with resolutions praising the nine members for their work already done.

Milk News. — The Dairymens' League awaits the definite answer of their president, R. D. Cooper, in his proposal to buy and operate the milk shipping stations now owned by the dealers, particularly the Borden Company. If a favorable reply is given, every member of the League in this state and nearby states will be asked for personal opinions on the matter. The consumption of milk in New York City has dropped 400,000 quarts a day since the high retail prices have been in effect. The most important decision of recent weeks affecting dairymen was arrived at in Washington November 10, in a conference of the representatives of the dealers, the League and the Federal food administration. Both dealers and dairymen agreed to place future operations under the control of a commission to be appointed by the Federal Food Commission. The price for December milk was agreed upon as the same received for October milk—a drop of half a cent a quart. The rank and file of the dairymen feel this to be unjust but they will submit for the present.

Crop Notes.—The big freeze moderated after about ten days of the most severe weather known in November for 17 years. But thousands of bushels of potatoes were frozen in the hill. Many yields could not be touched. Work was rushed where possible. Tuesday night saw the thermometer at 12 degrees again. Cabbage is still in the fields in many cases. The price has taken a decided drop and farmers will store. Onions are being rushed from the muck into store houses.—F.

FARMERS' INSTITUTES IN PENNSYLVANIA

First Section.—Lancaster County, Blue Ball, Nov. 26-27; Maytown, Nov. 28-29; Lititz, Nov. 30-Dec. 1. Speakers, Wm. M. Patton, F. H. Fassett and G. L. Gillingham.

Second Section.—Cambria County, Patton, Nov. 26-27; Salix, Nov. 28-29; Stuzman School, Nov. 30-Dec. 1. Speakers, J. Stuart Groupe, E. L. Phillips and H. K. Phipps.

Third Section.—Washington County, Lone Pine, Nov. 26; West Alexander, Nov. 27-28. Green County, Valley Chapel Church, Nov. 30-Dec. 1. Speakers, Sheldon W. Funk, W. Theo. Wittman and Prof T. I. Mairs.

Fourth Section.—Bradford County, Standing Stone, Nov. 26-27; LeRaysville, Nov. 28-29; E. Smithfield, Nov. 30-Dec. 1. Speakers, J. T. Campbell, W. H. McCallum and Prof. Franklin Menges.

Fifth Section.—Lackawanna County, Bald Mount, Nov. 26-27. Schuylkill County, Ringtown, Nov. 28-29; Sacremento, Nov. 30-Dec. 1. Speakers, D. H. Watts, Dr. J. N. Rosenberger and Dr. Hannah McK. Lyons.

Game Laws for 1917.—Farmers' Bulletin No. 910, of the U. S. Dept. of Agriculture, gives a summary of the provisions of federal, state and provincial statutes touching on game, its preservation and distribution. The bulletin is free for the asking of the department named, at Washington, D. C.

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FARM MEETING CALENDAR

International Live Stock Exposition, Chicago, Ill., December 1-8.

New Jersey Horticultural Society, Newark, N. J., December 10-12.

Pennsylvania State Grange, Williamsport, Pa., December 11-13.

Delaware State Grange, Newark, Del., December 11-13.

Palace Poultry Show, New York City, December 11-15.

New York State Dairymen's Association, Syracuse, N. Y., December 11-14.

Maryland State Grange, Belair, Md., December 11-13.

Maryland Agricultural Societies, Baltimore, Md., December 18-21.

Madison Square Poultry Show, New York City, December 28-January 2.

New York State Breeders' Association, Syracuse, January 8-10.

New York State Fruit Growers' Association, Rochester, January 9-11

New Jersey Corn Show Trenton, January 23-25.

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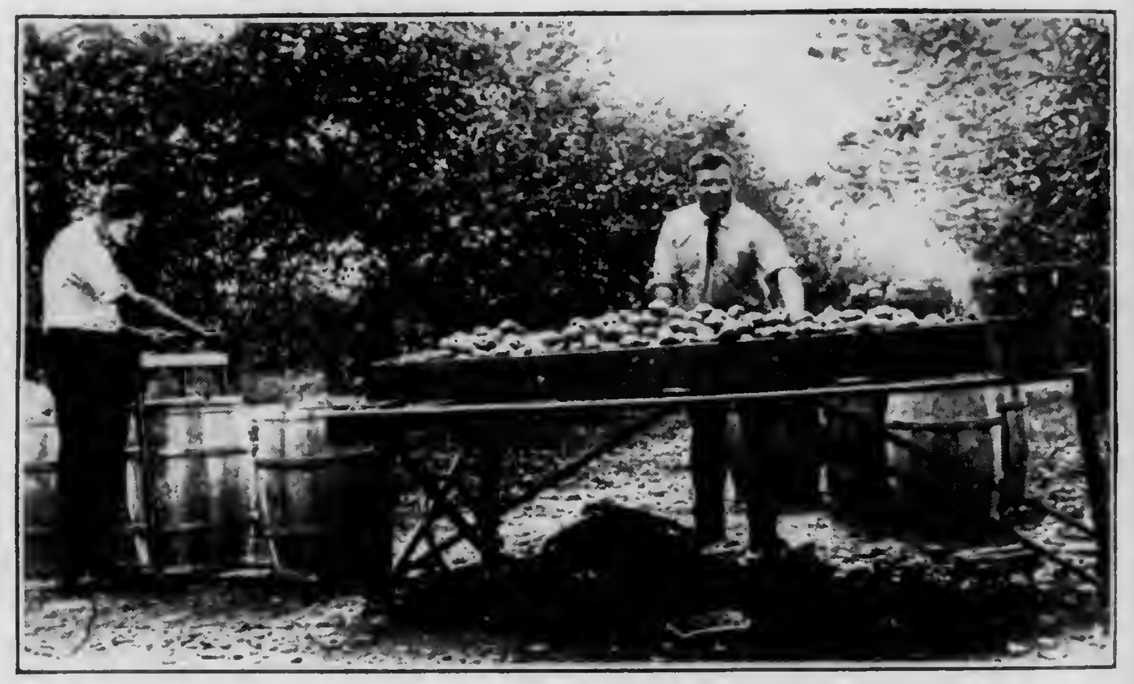
Horticulture

PICKING APPLES

Just when to pick apples is sometimes a problem to orchardists. Winter apples should be picked when they are well-colored and still firm —but not the hard dull firmness of green fruit. The difference is easily told after a few tricks, even by the inexperienced. Some varieties begin to drop badly before they appear ready to come; when this occurs, they should be picked immediately. In picking apples, give the fruit a slight upward twist, which in most cases will separate the stem from the fruit spur. If the fruit separates easily, it is usually an indication of ripeness. Sometimes, however, the stem and spur will not separate readily, even tho the fruit is ready to pick. By holding the spur just above the joint with the thumb and forefinger, while the fruit is held and twisted upward by the same hand, it will usually come off all right. Try to avoid breaking the fruit spurs that will produce next year's crop. Never pull fruit off a tree; this tears out the stems and leaves a place for rot to begin.

The sorting table in the illustration is made with folding legs. Each pair of legs is nailed to a crosspiece which is hinged to the top of the table, underneath, so that when not in use the legs can be folded under and the table stored away. A brace running from a notch near the bottom of each leg to the cross-piece under the center of the table keeps the whole thing rigid. A good idea of the arrangement can be gained from the illustration.—R. L. Scharring-Hausen.



A Folding Sorting Table Meets Many Orchard Requirements

RAISE WINTER RHUBARB

Every one who has a patch of pie-plant or rhubarb in the garden, or who can get a few roots from a near-by commercial plantation, can easily force an abundant home-supply of this delicious and healthful vegetable during winter. Forced rhubarb is more attractive, more tender and more crisp than the spring garden product, and it also is much less acid, so that less sugar is necessary in cooking it.

Strong one-year-old or older root stocks may be used for forcing this winter, but J. T. Rosa, Jr., of the University of Missouri College of Agriculture, suggests that plants which have become too old to produce a profitable crop in the garden be used. These roots or crowns are dug separately with earth adhering to them, in November before the soil freezes hard. Leave them on the ground a few days, so that the roots will freeze and the rest period thereby be broken, and so that the plant will start vigorous growth when placed in a higher temperature. If the roots are left out too long, they may dry out too much.

A cool greenhouse, deep hotbed or cellar of any description, or a basement room with earth or cement floor will do for the forcing place if it can be heated slightly and if light can be excluded, and water obtained. When the rhubarb is ready for forcing, the clumps of roots should be stood as closely together as possible on the floor, and spaces between the clumps should be filled with sand, ashes or earth. Water the bed thoroly just after setting, and as often as necessary afterward. The temperature ought to be low at first, around 40 degrees, while later it may run up to 60 degrees Fahrenheit. Take care that it does not get too warm, for that causes the shoots of rhubarb to be slender and spindling. Three or four weeks after starting, a crop of heavy-leaf-stalks should be ready, and there should be an abundant supply for four or five weeks from the same roots. A half-dozen roots should supply all that a family fond of this vegetable can consume, thus providing a cheap and appetizing relish for the family at a season when fresh vegetables have disappeared from the table.

COMMEMORATION PLANTING

To celebrate events that occur about a country home by planting something of an enduring nature is not half so common as it merits. It is a practice that will increase associations with the farm home.

Birthdays have been celebrated in this way—sometimes the first birthday. Many trees have been planted by, or for, honored guests, and it is a fitting way to express the purpose to guard the memory of a happy visit.

There are so many pleasant experiences that could be fittingly honored by adding to the home plantings from year to year. Especially at this season it will be suitable to arrange to plant a 1917 Thanksgiving tree. Thanksgiving for Philadelphia climate often closes the planting season, but promptness may yet make the beginning or continuing of such a series possible.

Hardwood trees like the oak and elm probably come to mind first in this connection, but even fruit trees should not be eliminated. There is the Lady Petre Pear tree beside the John Bartram house that for more than a century has been testifying

to a pleasant friendship; the tree has been bearing fruit for more than a hundred years.

We are likely to associate memorial trees with bigness, unmindful of the shrubs and flowers that continue to celebrate Grandmother's or "Down to Old Aunt Mary's". Lilac or mock-orange would be particularly homey in spirit and could come by mail. They could be quickly and easily planted by members of the family whose robustness is chiefly of the heart. The Country Life Commission mentioned, among its findings, the loneliness of farm women and the dreariness of their lives. Perhaps a gradually enlarging collection of shrubs, lovingly planted in remembrance of some event or experience, would prove a bit of companionship.

The children, too, should be encouraged to make living ties to the home by planting a tree, or shrub, or bit of phlox, or a bulb. A cluster or snowdrops coming up each year will radiate a pure and lasting influence. Wordsworth is not alone in the helpful recollections of daffodils:

> "For oft, when on my couch I lie
> In vacant or in pensive mood,
> They flash upon that inward eye
> Which is the bliss of solitude;
> And then my heart with pleasure fills,
> And dances with the daffodils."

—Frank M. Bartram.

TREE-VACCINATION WORTHLESS FOR SCALE

Makers of "Fertilizing Scale Treatment" Fined $100 Federal Court

Claims that the insertion of a white capsule and a brown capsule, containing potassium cyanide and other substances, in the bark of fruit trees will kill scale on the trees, led to a fine of $100 in the Federal courts upon the makers of the "Fertilizing Scale Treatment", who pleaded guilty to the charge of misbranding and adulteration. This fine, reported in a recently published Notice of Judgment was imposed in the case of the United States versus Albert D. Kleckner, Maybelle B. Kleckner, and Emma Kleckner (Fertilizing Scale Co.), Allentown, Pa., brought under the Insecticide Act of 1910 at the instance of the United States Department of Agriculture in the Eastern District Court, Pennsylvania.

The department tested these capsules for several years on fruit trees to determine whether their use had any deterrent effect on scale and whether the material also actually fertilized the trees as asserted by the makers. The department found that the capsules did not kill scale and did not fertilize the trees, but on the contrary, injured the tree causing large cankers thru which rot fungi may enter and finally destroy the tree. The department's tests were further supplemented and confirmed by the scientists of the department who visited many orchards in Maryland and Pennsylvania and studied the trees which had been treated by the agents of the company.

The "Fertilizing Scale Treatment" has been advertised and sold also as a remedy for other insects and for various tree diseases. Department specialists fail to find any reason to believe that the potassium cyanide and other substances inserted in trees in capsules have any value, whatever, in controlling plant pests.—Department News Letter.

The Difference Shows

Let's suppose that four years ago you and your neighbor each planted an orchard—same time, same soil, same kind of trees—only one difference. You planted with Hercules Dynamite. He used a spade.

Today the difference shows. You are gathering your first crop of fine fruit. Your neighbor is still waiting for his.

HERCULES DYNAMITE

always proves a money-maker and a time-saver for the man who uses it.

When a tree is planted in a dynamited hole it starts life with a silver spoon in its mouth. All the chances of fortune are on its side.

To begin with, instead of having to struggle for existence, forcing its tender roots through tightly packed soil, it has a chance to grow and expand in a natural way. Its energies are not expended in an effort simply to live. This difference in its start shows throughout its life in its strength, its size, in the fine fruit it bears. The man who owns it profits accordingly.

Write today for the 64 page book "Progressive Cultivation." It tells how to plant trees with Hercules Dynamite, also many other uses for dynamite on the farm. It is sent free on request. The coupon below is ready for your name and address.

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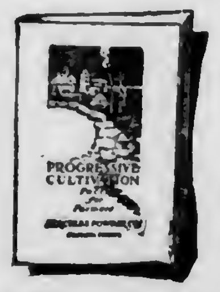

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Gentlemen:—Please send me a copy of "Progressive Cultivation." I am interested in dynamite for ....
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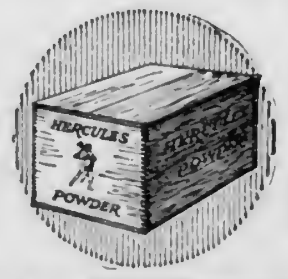

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This School box outfit is of imitation leather, is durably made, has single clasp and contains nine articles including a sanitary drinking cup, 10-inch rule, pencils, penholder, rubber eraser, pencil sharpener, etc. The contents are selected from well-known lines and are of the best.

Sent to your address, all charges pre aid, for 2 yearly subscriptions to Pennsylvania Farmer at 75 cents each.

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added to the ration daily makes horses, cattle, sheep and swine more productive and profitable. Makes your live-stock "make good"—or your money back.

Pratts Animal Regulator increases strength, growth and production in a ***natural*** way by ***keeping the stock in perfect health.*** It tones up the whole system—sharpens appetite—improves digestion—expels irritating worms—regulates the bowels—makes all organs do their work well and efficiently. That means more work from horses and mules—more milk from dairy animals—more flesh in shorter time—***less expense*** and ***bigger profits.*** Prove it at our risk under this guarantee:—

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Poultry

FIRST YEAR RESULTS IN VINELAND EGG-LAYING CONTEST

The first year of the Vineland Egg-Laying and Breeding Contest has ended with a total production of 161,875 eggs, the production for the month of October being 6,376, or a production of 20.6 percent.

Following is a list of the ten highest hens in the contest with their production:

Hen	Variety	Prod.
106	White Plymouth Rock	301
622	White Leghorn	290
179	Columbian Plymouth Rock	288
902	White Leghorn	285
19	Barred Plymouth Rock	278
17	Barred Plymouth Rock	272
60	Barred Plymouth Rock	268
414	White Leghorn	266
413	White Leghorn	265
818	White Leghorn	265

All these hens have made excellent records, especially hen No. 106, which laid 301 eggs, or a production of 82.5 percent for the year.

Below is a table showing the ten highest pens of the Contest and their owners:

Pen	Variety and Owner	Prod.
88	W. Leghorn, J. P. VanZandt	2212
76	W. Leghorn, P. C. Platt	2173
89	W. Leghorn, Shurts & Voegtlen	2115
62	W. Leghorn, Holliston Hill Poultry Farm	2114
43	W. Leghorn, Will Barron	2053
10	W. P. Rock, Holliston Hill Poultry Farm	1985
39	R. I. Red, Underhill Bros	1966
92	W. Leghorn, W. K. Wixson	1959
1	B. P. Rock, G. W. Buck	1956
41	W. Leghorn, Avalon Farms	1937

Considerable interest was attracted by the race for first place, which promised to be rather exciting in the late summer. Mr. Van Zandt's pen took the lead the first month of the contest and maintained it for the year, winning with a production of 2212 eggs, or a production of 60.6 percent for the year. Mr. Platt's pen was only 39 eggs behind Mr. Van Zandt's.

Following is the average percent production for the year for the ten breeds represented:

Columbian Wyandottes	38.8
Rhode Island Reds	41.2
Barred Plymouth Rocks	43.3
Columbian Plymouth Rocks	42.0
White Wyandottes	41.4
Buff Wyandottes	34.4
S. C. Black Leghorns	48.0
White Plymouth Rocks	41.6
S. C. Buff Leghorns	36.5
S. C. White Leghorns	46.9

Following is a list of the highest pens in the ten breeds for the year.

	Pen	Eggs
Barred Plymouth Rocks	1	1956
White Plymouth Rocks	10	1985
Columbian Plymouth Rocks	17	1854
White Wyandottes	22	1761
Columbian Wyandottes	27	1513
Buff Wyandottes	30	1591
R. I. Reds	39	1966
S. C. White Leghorns	88	2212
S. C. Buff Leghorns	95	1448
S. C. Black Leghorns	99	1758

FEEDING DUCKS FOR EGGS

It is safe to say that few ducks will be carried over the winter this year, excepting the laying breeds like runners. The green duck business has languished since feeds have risen in price so remarkably.

The Runners' wonderful egg-laying abilities will carry them safely thru this crisis, tho as with the best of hens it is very essential that we study food values in relation to feed prices. If in the past we have had excellent luck in getting eggs from some certain ration we can try to get the same feed values now or as nearly as possible, but substitute cheaper feeds for the corn, wheat, or corn meal fed in the past.

I formerly got the best results from two feeds a day of equal portions of cracked corn, wheat and a half portion of oats, and one feeding a day of the Cornell dry mash, with 10 percent extra beef scrap added. This is a highly extravagant ration at present prices. Corn is $4.50 per cwt. and so is corn meal and wheat is out of the question. But oats are 80 cents a bushel and may be used with a half part cracked corn for one feeding a day. The other two feeds must now be of mash, slightly moistened so that they will eat enough of it to maintain tissue and egg production. To balance the lack of corn in the whole grain ration, more corn food value must be used in the mash. Hominy is a good corn product—equal in feeding value to corn meal and costing but $3 per cwt. It should be used freely. Bran is rich in protein and mineral elements and at $1.90 per cwt. should be used freely to take the place of wheat in the grain ration.

Ducks always need more protein than hens if eggs are expected, as by nature their food is largely insects and worms. Good beef scraps may be had at $3.75 to $4 per cwt. and should be used generously.

I find a very good mash mixture, well adapted to present conditions, to be 100 lbs. hominy, 100 lbs. wheat bran, 15 lbs. alfalfa meal and 30 lbs. beef scrap. This is not as much beef scraps as formerly used, but it should not be as the ducks are now fed two feeds a day in place of one in former methods.

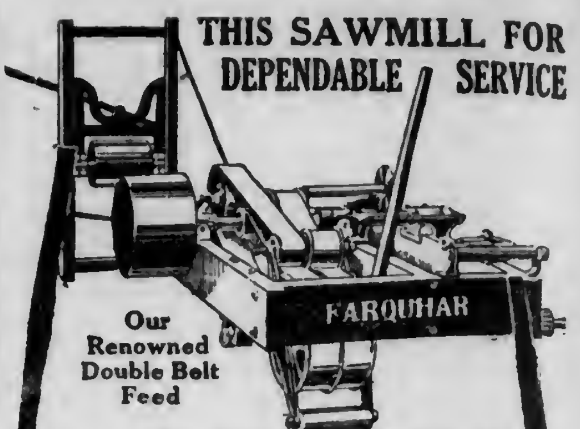
I do not believe it pays to try to force egg production too soon after the moult; moderate feeding for a month or so after moulting is better. About the middle of December I increase the beef scrap content to 20 percent of daily ration and soon begin to get eggs. Young ducks may be fed more heavily in fall and early winter and will lay satisfactorily.—M. G. F.

If the mistake has been made of holding over old hens or cocks, they should be sold. They are certain to prove a loss on the investment in the home flock unless the hens are exceptional producers and are to be kept for the production of eggs for hatching. Generally speaking, however, it is more economical to have the laying stock composed of birds in their first laying year.

—

In selecting pullets for the winter quarters a rigid culling should be resorted to. Do not keep birds that have weak stamina or are in any way deformed. Such birds will necessarily be inferior layers, and if used in a breeding pen will produce offspring lacking in natural vigor and will not be resistent to such spring troubles as white diarrhea, leg weakness and bronchitis. Reserve pullets that are active and manifest an alert, nervous temperament. A bright eye, deep back and a characteristic strut are essentials in a good producer.

THIS SAWMILL FOR DEPENDABLE SERVICE



Our Renowned Double Belt Feed

FOR many years the name "Farquhar" has represented the last word in efficient Sawmill machinery. The thousands of Farquhar Mills in operation all over the country give positive proof of the practicability of our design.

Mills are now regularly equipt with Farquhar Double Belt Feed as illustrated above. This remarkable Feed equals the flexibility of any variable Friction Feed in cutting, and at the same time has speed for quick return of the carriage. Simple, easy to operate with wear reduced to a minimum by shifting the friction on to specially prepared canvas belts instead of on feed proper.

Farquhar Standard Portable Mills are built in four sizes, varying in capacity from 2,000 to 15,000 feet. We offer the choice of either Standard or Log Beam type of Carriage. Special 1-A Mill for stationary use, and the Pony for light work. Write us concerning your requirements, and we'll send twenty-page Catalogue giving full description of the Farquhar line.

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Manufacturers, Engines and Boilers,
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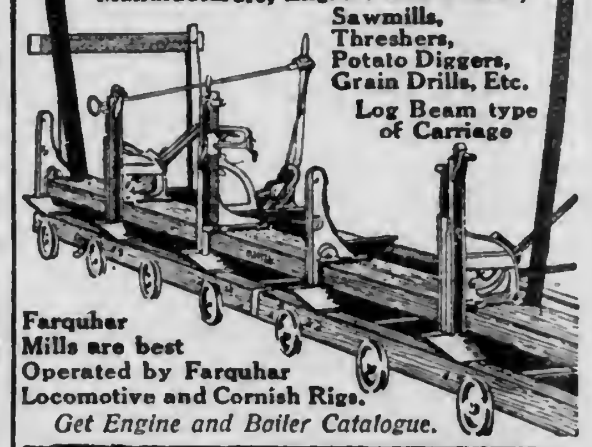

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Get Engine and Boiler Catalogue.

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This Pure Aluminum Cooking and Roasting Combination, Seamless and Sanitary. Four pieces. Makes 12 useful cooking utensils as illustrated.
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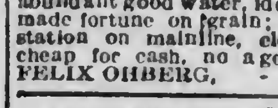
CENTRAL ALBERTA FARM for sale, going concern fully equipped. 1142 acres in one block, clear title, 600 under cultivation, best black loam clay subsoil, all fenced, good buildings, abundant good water, ideal for mixed farming, owner made fortune on grain; only one mile from railway station on mainline, elevators and growing town, cheap for cash, no agents. Address
FELIX OHBERG, - - - Amisk, Alberta.



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Special prices paid for all kinds of furs. Write for prices at once. CHAS. J. STRALEY
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Live Stock

HOG PRICES

Food Administration Statement

Joseph P. Cotton, Chief of the U. S. Food Administration Meat Division, on November 3 issued the following statement relative to the prices of hogs. The main purposes of the food administration as to hogs are four: To see that the producer at all times can count on a fair price for his hogs so that it will be profitable to him; to see that the farmer increases the number of hogs bred; to limit the profit of the packer and the middleman, and to eliminate speculation. All of these purposes are necessary because we must have more hogs, so that the ultimate consumer shall at all times get an adequate supply of hogs at the lowest feasible price.

We shall establish rigid control of the packer. Fair prices to the farmer for his hogs, we believe, will be brought about by the full control which the food administration has over the buying of the allies, our army and navy, the red cross, the Belgian Relief and the neutrals, which together constitute a considerable factor in the market. The first step is to stop the sudden break in prices paid for hogs at the central markets. Those prices must become stable, so that the farmer knows where he stands, and will feel justified in increasing hogs for next winter. The prices, so far as we can affect them, will not go below a minimum of about $15.50 per hundredweight for the average of the packers' droves on the Chicago market until further notice.

We have had, and shall have, the advice of a board composed of practical hog growers and experts. That board advises that the best yardstick to measure the cost of production of the hog is the cost of corn. That board further advises that the ratio of corn price to hog price on the average over a series of a year has been about twelve to one (or a little less). When the ratio has gone lower than twelve to one, the stock of hogs in the country has decreased. When it was higher than twelve, the hogs have increased. That board has given its judgment that to bring the stock of hogs back to normal under present conditions, the ratio should be about thirteen. Therefore, as to the hogs farrowed next spring, we will try to stabilize the price so that the farmer can count on getting for each 100 pounds of hog ready for market, thirteen times the average cost per bushel of the corn fed into the hogs.

Let there be no misunderstanding of this statement. It is not a guarantee backed by money. It is not a promise by the packers. It is a statement of the intention and policy of the food administration which means to do justice to the farmer.

INTERNATIONAL LIVE STOCK SHOW

The list of exhibitors and total entries for the International Live Stock Exposition, to be held at the Union Stock Yards, Chicago, Ill., December 1 to 8, indicate the biggest show in the history of this event. The list of exhibitors exceeds that of any other year by fully one-fifth. Total entries are the highest in the history of the show. The following list of entries gives a slight suggestion of the magnitude of this great show:

Live Stock Entries

Cattle. — Shorthorns, 605; Aberdeen Angus, 268; Hereford, 493; Galloway, 90; Red Polled, 120; Polled Durham, 75; Grade and Crossbred, 124; Boys' Club entries, 55. Total cattle, 1,830.

Sheep.—Shropshires, 141; Hampshires, 66; Cotswolds, 34; Lincolns, 35; Dorset, 54; Oxford, 40; Leicester, 16; Southdown, 107; Cheviot, 62; Rambouillet, 84; Grade and Crossbred, 190; Others, 77. Total sheep, 906.

Swine.—Berkshires, 169; Poland Chinas, 79; Chester White, 146; Duroc Jersey, 169; Tamworth, 47; Yorkshire, 52; Hampshire, 113; Grades and Crossbred, 63. Total swine, 838.

Horses.—Clydesdale, 181; Percherons, 334; Shires, 84; Belgians, 225; Suffolk, 20; Draft in Harness, 56. Total horses, 900.

SODA LYE NO REMEDY FOR HOG WORMS

Soda lye has no value as a remedy or preventative against worms infesting hogs, nor is it likely to be of value against similar intestinal parasites in other animals, according to the U. S. Department of Agriculture. Hogs were fed daily with the soda lye mixed in their food in accordance with the directions printed on the label of the sample tested. As a result it was found that the hogs remained infested thruout the period of treatment, 2½ months, and that the extent of infestation was increased rather than decreased.

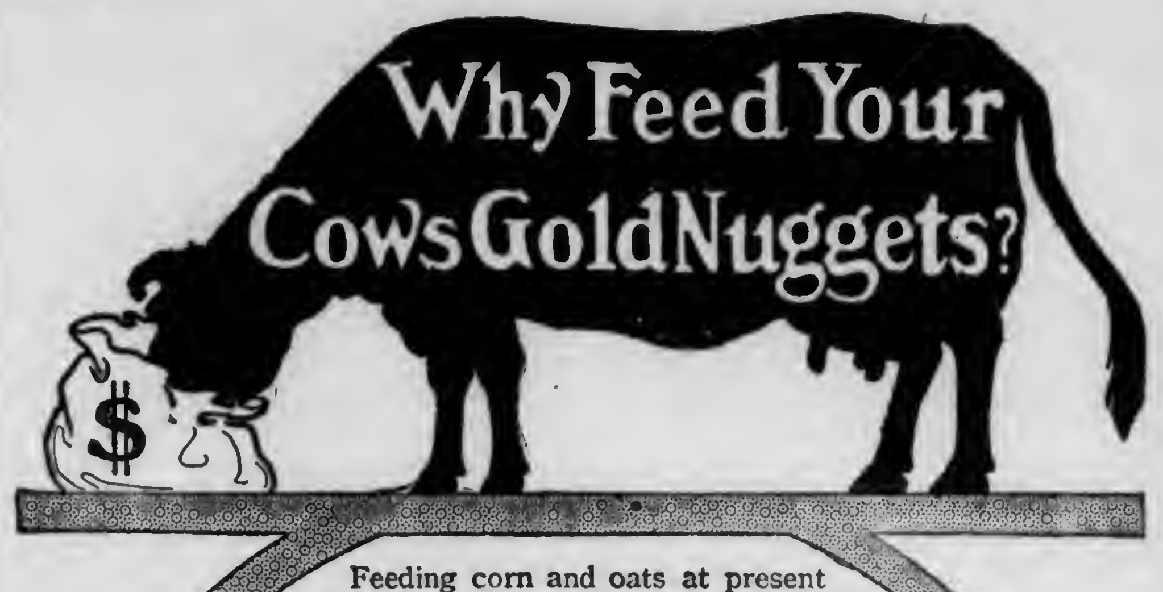
While the efficacy of soda lye against worms parasitic in other animals was not tested, it is probable, says the Department, that it has no value. The digestive tract of sheep is much more complex than that of hogs, and it is probable that a drug having no apparent effect on worms in the comparatively simple digestive tract of hogs would be equally unsatisfactory in the case of sheep and other ruminants.

Manufacturers of soda lye are warned to remove labels on which are printed unwarranted claims that the product has remedial or preventative powers against worms, or render themselves liable under provisions of the Insecticide Act of 1910. —Department Circular.

SAVING THE MANURE

Mr. A. J. Collins, of Burlington Co., N. J., a prominent breeder of hogs, believe in letting none of the manure made on his farms go to waste. His pigs are confined in concrete pens with watertight, concrete floors that slope gently toward the rear, at which point four-inch drains lead to a number of concrete wells at the rear of the pens. At regular intervals the pens are flushed with a hose, washing both solid and liquid manure and refuse food thru the drains into the wells. From these the liquid manure is pumped to a tank wagon, and applied to the orchards. Thus all the manure goes back to the land.

After explaining the system, Mr. Collins said, with a twinkle in his eye, "We used to repay the pigs by feeding them the rotten and wormy apples. Now we spray the trees so much that there aren't any rotten apples!"—R. L. Scharring-Hausen, N. J.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Feeding corn and oats at present prices is like feeding your cows gold nuggets. Stop it! Your country needs your grain and you need the money. Follow the lead of an army of farmers who are feeding

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because it saves, and costs less than home grown grains and makes the cows give more milk. And more milk at present sky-high prices means more money for you. International Special Dairy Feed means that you will

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Not only will you double the fertility of your own soil, but you can sell the Pulver'd lime to your neighbors at an attractive profit. You can also use your machine for crushing rock for concrete and road work. Your Lime Pulver will pay you big profits. Requires no experience. Simply belt it to your engine and feed it rock.

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Model A. 8-16 H. P. you have been reading and hearing about. Light, Simple, Easily handled, Self-Guiding in the furrow—Not an extra pound's weight to carry, yet plenty for Traction—1,500 lbs. guaranteed drawbar pull and 16 H. P. on all belt work—Center of gravity low, making it fine for side hill work.

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If you prefer, you can put your own valuation on your furs and if I cannot pay as much or more, I will return your furs to you at my expense. If you will be reasonable, we will be able to trade very nicely and be of benefit to each other. Try me—It will mean extra money for you. Get in touch with me at once. DO IT NOW.

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Hogs Thrive on Tankage

Tankage builds big frames to carry fattening. Experiment station reports show that tankage is the cheapest and the best feed for hogs and growing pigs.

Martin's Abattoir Tankage

is carefully sterilized, especially prepared and ready to feed. It produces money makers for you. Buy direct from manufacturer and save money. Prices on request.

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Stock Yard HOG FOOD $40 ton
25 to 30 per cent. protein—10 per cent. fat. In 100 lb. bags. 3 cts. lb. less than ton lots. Ask for samples.
CONSOLIDATED DIGESTER TANKAGE
Meat and bone. 40 to 45 per cent. protein—12 per cent. fat. $65 per ton. Less than ton lots, 4 cts. lb.
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Free Baits For Trappers
$1.00 Bottle Write today before our supply is exhausted and we will tell you how to get free the ***Guaranteed Decoy.***
BACH FUR CO., Dept. 158 New York City

Farm Products Prices and Prospects

NOTES FROM THE NOVEMBER CROP REPORT

Conditions since the October forecast caused a reduction of about 19,700,000 bushels in the indicated output.

Potatoes also are a record crop, with a total of 439,686,000 bushels, but unfavorable weather late in the season caused a reduction of 13,000,000 bushels.

"The corn crop of 1917 is notable as occupying the largest acreage and producing the largest total crop of record," said a statement of the Department of Agriculture. "The yield per acre, however, is not exceptional, owing to an unfavorable season, characterized by a late spring, a cold summer, which was also too dry over much of the corn belt and early and damaging frosts and freezes, the season being thus shortened at both ends. Thus, unhappily, the bountiful crop contains much corn that did not fully mature, probably in excess of 20 per cent, although most of this had reached the dough state, making it useful for silos and early feeding.

"The potato crop, estimated at 440,000,000 bushels, is the largest on record, notwithstanding an unfavorable September and October cut down the actual production below the forecasts made earlier in the season. The northern commercial sections were most seriously affected by the unfavorable weather during October. The quality of the crop is slightly above average.

"The buckwheat production of 16,813,000 bushels, fell below early forecasts, although it is up to an average in total production compared with former years.

"The flaxseed crop, estimated at 9,648,000 bushels, is very disappointing in its outcome, being smaller than early forecasts, and much below an average production."

COMMENTS ON CABBAGE CROP

From a large number of reports received from special cabbage reporters located in commercial districts thruout the country, it is estimated that the production of cabbage in 1917 will approximate 502,700 tons, as compared with 691,920 tons on Oct. 1; 770,220 tons on Sept. 1, and 750,460 tons on Aug. 1, a decrease of 247,760 tons, or about 33 percent as compared with the original forecast of August 1, and about 27 percent as compared with the forecast of October 1, the latter month having been very unfavorable to the development of the crop. Of this decrease, 121,900 tons, or about 9 percent, occurs in New York and is due to a late and unfavorable season which prevented the heading of much late planted cabbage. Of the balance, 59,360 tons occurs in Wisconsin, the second state in commercial importance, and is due to practically the same causes. A further large proportional reduction of 24,710 tons occurs in Colorado, the condition of cabbage in which state it is thought was heavily over-estimated by the growers at the beginning. The aggregate decrease for the three states is 205,970 tons, or about 83 percent of the total decrease in tonnage.

From the reports received it appears that the crop has been damaged to some extent in Michigan, Minnesota, and Wisconsin by late frosts and freezes, but it is believed that with favorable weather from now on the major portion of the crop still in the field will be harvested. It is reported from Wisconsin that 40 percent of the crop still remains in the field.

TAX UPON FREIGHT CHARGES

The Federal revenue act, approved October 3, 1917, contains the following provision pertaining to the tax on facilities furnished by public utilities:

Sec. 500. That from and after the first day of November, nineteen hundred and seventeen, there shall be levied, assessed, collected and paid a tax equivalent to three percentum of the amount paid for the transportation by rail or water of property by freight consigned from one point in the United States to another.

The act provides that it will be administered according to the regulations which shall be prescribed by the Treasury Department. Most of the carriers advise that, pending the promulgation of such final regulations, they will apply the 3 percent tax upon freight charges as follows:

(1) The tax must be paid by the person, corporation, partnership or association paying for the services or facilities rendered.

(2) The tax will be collected on both intrastate and interstate traffic.

(3) The tax will not apply to export shipments if the lading shows final destination to be a foreign country.

The tax of 3 percent on amounts paid for the transportation of property by freight must be collected when and as freight revenues are collected, except that the tax may and should be computed at the time freight bills and prepaid shipping tickets or bills of lading are made. The amount of the tax must be shown on the face of each such bill, prepaid ticket or lading.

The tax must be collected on "collect" shipments by agents at destination, and on "prepaid" shipments by agents at point of origin.

CANADA "CAMOUFLAGED"

Oleomargarine has found its way into Canada thru the recommendation of the so-called Milk Committee in which was vested the power to decide this question. They called it a milk committee, so the householder who reads the "Milk Committee" recommendation in the daily papers will get the idea that the sale of oleo in Canada is sanctioned by the dairy interests. "Farm and Dairy" has taken this "Milk Committee" to pieces, and they find that those of the committee who favored this recommendation were as follows: One inspector, a contractor, a medical health officer, a farmer, who is president of the Toronto Milk Producers' Association, an alderman and the president of a dairy company. The farmer opposed this resolution strongly, but without avail. Another member of the committee, a dairy commissioner, was not notified of the meeting in time so he could be present, and the resolution was passed without hearing what he had to say. The two strongest arguments against it were not heard until after the resolution had been passed without the representation of the dairymen. It looks like some one "put one over".—Butter, Cheese and Egg Journal.

Note.—Canada had, up to this time, always prevented the sale of oleomargarine so as to develop her dairy industry.

CLOVER FIFTEEN DOLLARS

Clover seed at $15 made its first appearance at Toledo on October 13. No doubt the war had its influence, but short acreage and poor crop conditions in many sections probably had still greater effect. Movement is very light, shipments were moderate, nevertheless stocks decreased for the week 1,000 bags at Toledo. Yet stocks ought to accumulate in the fall instead of which they have been decreasing.

PORK PRICE PROSPECTS

Mr. Hoover in the Official Bulletin, on October 27, concluding a statement on "Rapid Decline of the World's Herds," etc., said:

"I realize that under certain conditions a lack of confidence in the stability of market prices may act as a deterrent, and, further, that this may sometimes come from a failure to glimpse an opportunity before one. I therefore wish to make this positive statement that, so far as the United States Food Administration is able, thru its influence on the purchase of pork and its products for exportation, it will do all within its power to see that prices of pork are maintained in a ratio to feed prices that will cover not only costs of production but proper remuneration to the producer.

"By a system of license control of manufacturers and distributors the Food Administration will further help the producers. This system will tend toward the abolition of speculation, the punishment of profiteering, and the assurance that the consumer receives the product at a fair ratio of the producer's price, and that vice versa the producer receives a fair interpretation of the consumer's payment. All of these measures, I believe, offer a new hope for agriculture."

EXPORTATION OF CORN

The War Trade Board has put into effect the prohibition against the export of corn except in special cases where satisfactory evidence of the necessity of exporting has been submitted. This is due to the late arrival of the new corn harvest, and exporters have been warned not to make any shipments or any contracts for shipment unless licenses for export have previously been secured.

In the past exporters have made shipments and then attempted to use the fact that they were paying demurrage as a reason for releasing such shipments. This reason can no longer obtain and henceforth export licenses will be refused if shipments of corn are made previous to securing licenses.—Price Current.

SEED CORN

The Food Administration repeats the statement that seed grain may be sold by one farmer to another at any price they may agree upon regardless of the established maximum price, but the dealer must sell at the maximum price plus 15 percent.

The lateness of the corn crop has made the seed question a very serious one. The recent widespread frost completely stopped maturing of the corn in thousands of acres and it should be borne in mind that frosted corn will not mature or be worth anything as seed. Seed selection should be made immediately and with extreme care.

Demonstrations in the selection of seed corn in Michigan carried on by students from the agricultural college show that the seed corn situation in that state is quite serious. It is reported by the examiner that not one bushel of old seed can be found in that state and that the seed picked from this year's crop is of very uncertain quality.

COTTONSEED MEAL OUTLOOK

From investigations made by a Southern trading firm into the prospective supply of protein feeds, the outlook is most encouraging for feeders. It is estimated that there will be 607,000 tons of peanut meal, 5,000,000 tons of velvet beans, which will make 4,000,000 tons of meal, and 2,500,000 tons of cottonseed meal, making a total of 5,107,000 tons of meal to be consumed in the United States. It is stated that the consuming demand, including the fertilizer industry, is not over 2,000,000 tons.

From these figures it is hard to see how concentrated feeding stuffs can be sold at exhorbitant prices the coming year. The present high prices are due to late starting of crushers and mills and the consequent light production. It looks as if prices must take a tumble soon.

NOTES ON NEW JERSEY CROPS

Farm labor continues scarce and high. Some corn in the northern part of the state remains unharvested. In some sections of the state unfavorable weather and the scarcity of labor delayed farm operations, especially the seeding of grain and harvesting of corn.

Preliminary Estimates of New Jersey Crops

Corn, 40 bushels per acre, 11,880,000 bushels; wheat, 19 bushels per acre, 1,658,700 bushels; rye, 19 bushels per acre, 1,330,000 bushels; oats, 32 bushels per acre, 2,208,000 bushels; buckwheat, 19 bushels per acre, 319,000 bushels; hay, 1.5 tons per acre, 534,000 tons; potatoes, 105 bushels per acre, 10,264,000 bushels; sweet potatoes, 104 bushels per acre, 2,392,000 bushels; cranberries, 12.2 barrels per acre, 122,000 barrels.

FARM LABOR AND BOOZE

There is some comedy in farm labor experiences, especially if you have a well-developed sense of humor. Let me tell the tragedy.

Two years ago we employed two men, both above the average of farm laborers. The one, however, was a drinker and went on periodical sprees, away from the farm, but to the detriment of his work. Finally he became bolder and more reckless, and, filled with liquor, ran amuck. He drove his fellow workman away so effectually that it was nearly a month before trace of him was found and he has not been near the farm since. Then the fiend turned his attention to my wife and me and between crime and attempted crime he ran the gamut from assault and battery (knocking us both down repeatedly and stamping upon us) to murder and arson. That he did not succeed in these latter crimes was not owing to lack of will and intention. For more than two hours we were helpless before his raging, but finally we escaped to the woods and in time saw him go away. We had no weapon of any sort that would have been effective, for without disabling him we would only have made matters worse. So we could only endure and seek to avoid his insane rushes. Expecting his return to finish what he had begun, as he threatened, I bought a revolver to be ready; but he was arrested while on his way to the farm one night, after a week's debauch. We spent much time and money to put him where he belonged, but before his case came to trial he forefeited his bond and is now a fugitive.

With more than 20 acres of corn to harvest, besides potatoes and buckwheat, and all our help gone, the outlook was not bright. We grasped at straws. Three very seedy persons applied for work and we engaged them. Their work was in keeping with their appearance. Their noses did not belie them. They were, perhaps better than no help at all, but not very much. I figured that with wages and board I paid them 50 cents for every bushel of corn they husked. They could not even pick potatoes, to say nothing of handling the digger; but we worried along for three weeks, and then Albert came. He came direct from a farm in New York and the contrast to what we had was startling. I discharged two of the others, retaining the one who appeared most willing to learn, and we got in our crops. Then only Albert remained, beyond question the most efficient farm helper we ever had. He was quiet, neat, clean, well-mannered, industrious, and above all, helpful, with all the word implies. It was a pleasure to us to engage him at good wages and increase them from time to time.

From the first he professed to have no use for liquor and for almost a year we believe he abstained entirely. We ourselves never use any intoxicants in the home or elsewhere for any purpose and he apparently fell in with our ways in this as in other respects. Things looked bright on the farm and we were beginning to congratulate ourselves, when the inevitable happened. Before we were aware of what was going on he resumed his drinking, and a little more than a month ago, he shot himself thru the heart with the pistol I had bought for defense and which he had found. A quart of bad whiskey was the moving spirit. We were within a dozen feet of him when he did it and the shock was terrible. I say "resumed", for from facts we have since learned and pieced together we believe that he formerly drank heavily; that he tried to break away from the habit and left his native state for ours. Looking for work, he happened to come to us when we needed help. He found ours the kind of place he was looking for and was glad to stay. But his old enemy was too strong for him in the end and he took the only way out he knew.

Again we have no hired man, and, what is more, we shall not get one. Our experiences with the help problem during the past fourteen years have been so harrassing that we have finally decided never again to submit to the care, the anxiety and the trouble labor of this kind affords. Our farming will be changed to meet the new conditions. We will cultivate fewer acres and leave the rest of the farm in grass or have it cultivated by neighbors if they can find the time and the strength to do it. If a reliable family can be obtained we may hire the whole, but no more foot-loose hired men of the kind we farmers must now be thankful to get will be tolerated here.

There are those who prate that the state has the right to ask that my farm be cultivated for the good of all. It may be so; but the right of my family to safety and peace transcends other rights, and so long as the state licenses the hellish traffic that unchains the beast in our hired men it cannot consistently look for complete response on our part.

I have given the barest outline of what we have suffered from that awful combination, liquor and the hired man. We have neither strength nor will to continue the unequal struggle, so we have made our decision. We shall continue to work early and late to produce all we may, but we will no longer be under the handicap an unstable hired man imposes. The strain is too great and the result too likely to be merely a repetition of what we have already experienced. — Howard Mitman, Northampton Co., Pa.

ONLY HELP TAKEN

The October 20 issue of Pennsylvania Farmer was worth many times the cost of subscription to us. There were so many things of value, and above all we found so much comfort to us in the news of what is being done to have farm boys exempted from the draft. We are old people and our youngest son is all that we have at home of a family of six children. He was called for examination in September, and passed. We have 175 acres of land and milk from 20 to 30 cows. This boy has been doing all of the heavy work. Now if he is taken we will be all broken up in business as the father is 65 years old and unable to do much work except the chores.

We are trying to do all we can in the raising of crops that are needed and it seems unjust that we must also give up our boy and thus lose the only help we have left on the farm. We have always been farmers and do not want to do anything else. We asked for exemption for our boy, and it was denied. We live on a corner and within a quarter of a mile each way six young men have been taken, so it is impossible to get help. Our farm is mortgaged, and if our boy is taken we do not know how we will be able to hold on.—A. W., Cattaraugus Co., N. Y.

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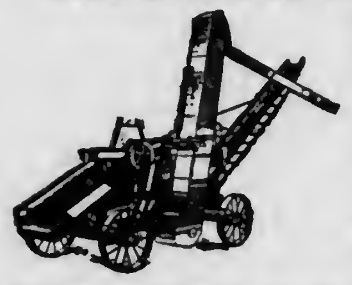

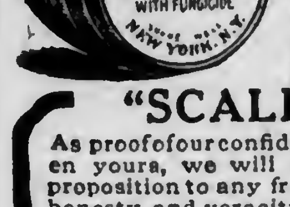

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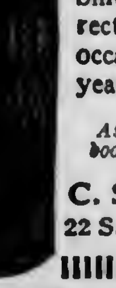

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For All of Which We Give Thanks

Our Thanksgiving Meats, etc.

Ours is one of the pre-eminent turkey raising sections, and we surely ought to save one good bird out of the flock for our own Thanksgiving Day dinner this year. We have tried to do our part well in feeding the world; we have made our acres work harder than ever, and so let us not begrudge ourselves a prime bird from our flock.

Roast Turkey

Wash the turkey, stuff with a chestnut stuffing, sew up, lay the turkey in the dripping pan, pour a large cupful of boiling water over it, and roast about 10 minutes per lb —slowly the first hour. Baste faithfully. Occasionally dredge with flour, basting with butter at the last. Dish the turkey. Pour the major part of the fat from the pan, thicken the remainder of the liquid with browned flour; salt and pepper, let boil up, then serve in a boat. A prime cockerel may be prepared the same way. —Helen Lyman, Berkshire Co., Mass.

Dressing for Roast Fowl

An excellent dressing for a none-too-fat fowl is made as follows: Break a loaf of corn bread into crumbs, add ⅓ lb. peanut butter, 4 tablespoons finely chopped parsley, 1 onion chopped fine, 2 stalks of celery chopped fine, salt, pepper, sage, savory and mace to taste. Add sufficient bacon fat to bind the ingredients somewhat; spoon into the fowl, and bake in a moderate oven. —L M. Thornton, Tioga Co., N. Y.

Roast Pig

Clean, stuff and truss a pig, put on the rack in a dripping pan, brush the entire surface with melted butter, and make four parallel gashes on each side of backbone. Put in hot oven, cover with buttered paper and roast 2½ hours, basting every 10 minutes. Remove the paper, and brown 10 minutes. Remove to platter, garnish with celery tips, and put a red apple in the mouth.—Helen Lyman, Berkshire Co., Mass.

Cuban Sauce for Roast Pig

To the juice of half an orange and one lemon add a seasoning of salt and pepper, ½ cup boiling water, and 1 beaten egg. Cook until it begins to thicken, then add 1 level tablespoon butter. Put a little at side of each serving.

Ham Boiled in Cider

Partly fill a large kettle with sweet cider and boil 45 minutes, adding more cider if it boils away too much. Remove from fire, put in a bag of spices—cinnamon, mace and cloves in equal amounts—and half a ham. Return to the fire and boil slowly six or seven hours, or cook in fireless cooker that long. There should be enough of the cider to cover the ham when it is put in, and hot water should be added to take the place of that lost by evaporation in boiling. Remove from fire, and let the ham cool in the liquor in which it was boiled.

Steamed Oysters

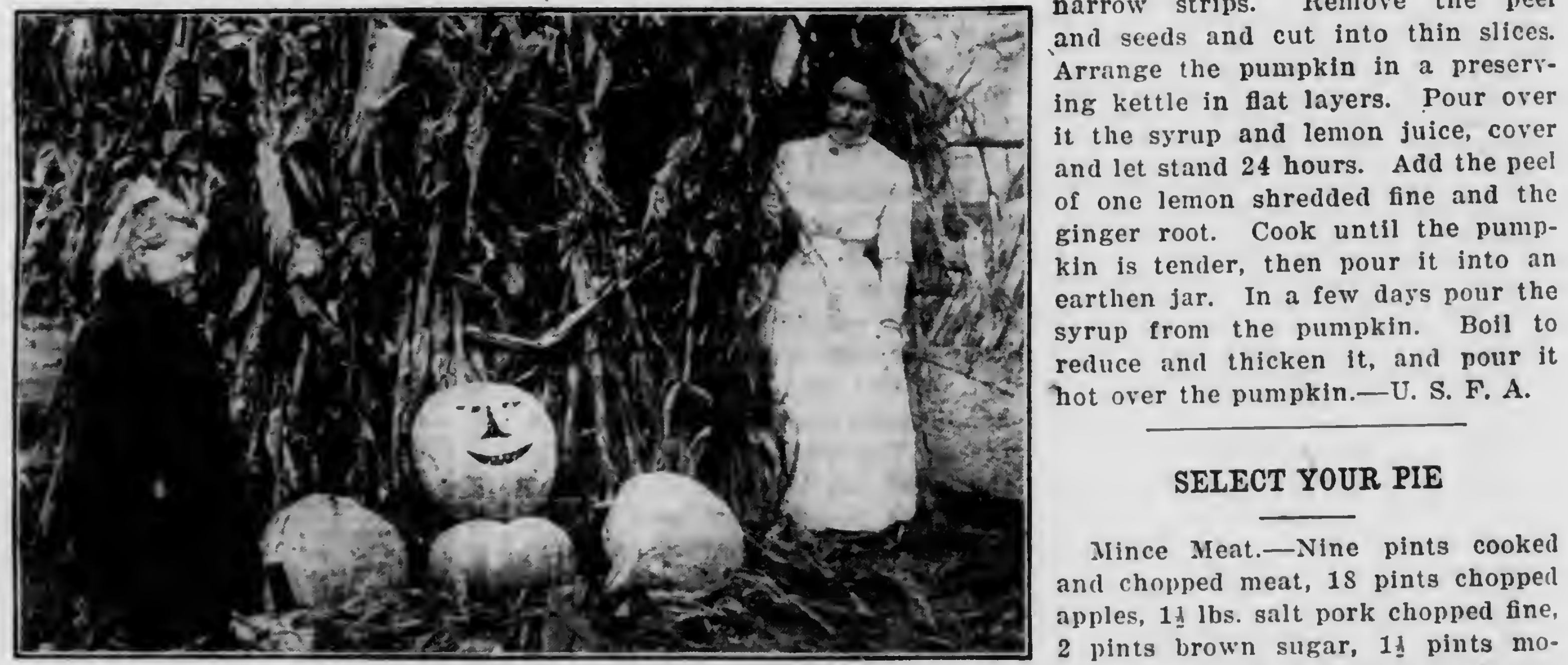
Brown as many slices of bread as there are persons to be served. Carefully drain the oysters and steam them over salted water for 10 minutes. Remove from steamer, mix with a dressing made of very thick sweet cream, salt, pepper, or of milk, salt, pepper and butter, and serve at once poured over the slices of toast.

Spanish Steak (Fish)

Cut a slice of bacon into small pieces, add a chopped onion and brown in frying pan. When the onion is tender, add 2 cups canned tomatoes, 2 tablespoons flour rubbed smooth in a little of the tomato juice, 1 teaspoon salt, ¼ teaspoon pepper, ½ teaspoon Worcestershire sauce and a dust of allspice and cinnamon. In the bottom of a pan put a fish steak weighing about 1½ lbs., pour the sauce over it and bake for half an hour.

Steamed Chicken

Make a dressing of bread crumbs and 1 hard boiled egg chopped fine, a few raisins and a seasoning of chopped onion, salt, pepper and chopped sweet peppers. Fill a chicken with this dressing, put in a steamer and steam until tender. In a baking dish put 1 pint sweet cream, 1 cup soup stock, 1 cup mashed sweet potato. 1 cup chopped okra or stewed corn, ½ lb. bacon chopped fine, all seasoned with salt and pepper. Mix thoroly, add enough cooked rice to make as thick as a soft biscuit dough. Hollow out a hole in the center, in which place the chicken. Bake in a moderate oven 30 minutes.—Mrs. L. M. Thornton, Tioga Co., N. Y.



ESTIMATING THE PUMPKIN PIE TIMBER

THANKS FOR VEGETABLES

Diced Turnip.—Pare, slice and cut in dice an inch square, boil until nearly done in as little water as possible. Then, for 1 quart of turnips, add 1 tablespoon sugar, salt to suit taste, 3 tablespoons cream and 1 beaten egg, and cook until dressing is well heated.

Creamed Celery.—Scrape the outside stalks of celery, cut into pieces an inch long, put into enough boiling water to cover, and cook until tender. Drain-off water, and dress with butter and milk, or with cream, thickened with a little flour.

Baked Onions With Cheese.—Peel and cut into half-inch slices some large white onions; parboil in salted water, drain and arrange in a buttered baking dish with bits of butter, and bake until soft, then sprinkle with salt, pepper and a layer of grated cheese. Return to the oven long enough to melt the cheese.

Fried Beets.—Cook large beets until tender, plunge into cold water and remove the skins; cut into thick slices, dredge in cracker dust or flour and fry in bacon fat.

Baked Potato Strips.—Peel 6 potatoes, cut into strips, soak in salted cold water one hour, dry with towel, dip into 2 tablespoons melted butter, lay in a large baking pan, sprinkle with salt and paprika, and bake until brown.—Helen Lyman, Berkshire Co., Mass.

Corn Pie. — Line a baking dish with biscuit dough; to 1 can of corn add 2 eggs, 1 cup milk and a seasoning of salt and pepper. Mix thoroly, pour into the crust, and bake 30 minutes in a moderate oven.

Scalloped Corn.—To 2 cups corn add 1 cup sweet milk, 1 tablespoon butter, 2 cups cracker crumbs, and salt and pepper to taste.

Cheese-Carrot Dish.—Cook young carrots in salted water, and when done mash with a wire potato masher. To each cup carrots add 1 teaspoon butter, ¼ teaspoon salt and ½ cup grated cheese. Beat until thoroly mixed and serve at once.—Mrs. L. M. Thornton, Tioga Co., N. Y.

CONSIDER THE GOLDEN PUMPKINS

What can you do with a pumpkin? Before turning it into the good dishes you know so well, take a long look at this glorious bit of color, double-dyed with sunshine. Its very beauty evokes thanksgiving. Cut off the top, scoop out the meat, then fill the shell with sprays of red-brown autumn leaves and place this golden bowl in the center of the Thanksgiving board. Then use the inside for food.

Here is a group of recipes that are different. They are from the 1917 edition of the Pumpkin Book.

1917 Pumpkin Pie

1 cup molasses
1 quart cooked pumpkin
Grated peel of 1 lemon
½ teaspoon each of nutmeg, cloves and cinnamon
4 eggs

Heat the molasses and stir into the pumpkin; add the seasoning and beaten yolks of the eggs. Mix well; add the stiffly beaten whites of the eggs. Bake in a pudding dish. Serve cold. Mashed sweet potato may be used in place of the pumpkin if thinned with 1½ cups milk.

Corn Meal Crust for Pumpkin Pie. —Grease a pie tin, and cover it with dry cornmeal one-eighth of an inch thick, shaking it to scatter the cornmeal. Fill with the above pie mixture and bake. This crust may be used with any semi-solid filling, or the pastry may be omitted altogether and the pumpkin custard baked as a pudding.

Baked Pumpkin.—Cut the pumpkin into quarters. Allow two quarters of a large pumpkin for a family of six. Remove seed but do not peel. Place in a baking pan and bake until tender enough to pierce easily with a fork. Serve from the rind at the table with gravy.

Pumpkin Pones

2 cups cornmeal
2 cups stewed pumpkin
1 teaspoon salt
6 tablespoons syrup

Press the pumpkin thru a ricer. Blend with the other ingredients. Mold with the hands into small pones and bake in a greased biscuit tin until a rich brown, about 30 minutes. If too moist to mold well, add more cornmeal.

Golden Chips

2 pounds pumpkin
2 cups thin syrup
¼ cup lemon juice
2 ounces ginger root

Cut a small sweet pumpkin into narrow strips. Remove the peel and seeds and cut into thin slices. Arrange the pumpkin in a preserving kettle in flat layers. Pour over it the syrup and lemon juice, cover and let stand 24 hours. Add the peel of one lemon shredded fine and the ginger root. Cook until the pumpkin is tender, then pour it into an earthen jar. In a few days pour the syrup from the pumpkin. Boil to reduce and thicken it, and pour it hot over the pumpkin.—U. S. F. A.

SELECT YOUR PIE

Mince Meat.—Nine pints cooked and chopped meat, 18 pints chopped apples, 1½ lbs. salt pork chopped fine, 2 pints brown sugar, 1½ pints molasses, 1 pint boiled cider or ¾ pint vinegar, 1 lb. currants, 2 lbs. raisins, 1 tablespoon each of cassia, nutmeg, allspice, cloves, salt. Cook all together very slowly four hours, and sterilize for 15 minutes in cans in water-bath as for cold-pack canning.

Cranberry Pie.—Three-fourths cup each of cranberries, sugar, cold water and raisins. Cook all together until cranberries crack open, then add 1 teaspoon flour, 2 level tablespoons butter and 1 teaspoon of vanilla creamed together. Bake in two crusts.

Squash Pie.—Three cups squash, 2 cups sweet milk, 1 cup sugar, 1 teaspoon salt, ½ teaspoon cassia, pinch of cloves, 2 eggs. Bake in moderate oven. Make two pies.

Raisin Pie.—Boil 1 lb. raisins one hour, add the juice and rind of 1 lemon, 1 cup sugar and 2 tablespoons flour. Bake in two crusts.

Pumpkin Pie without Eggs.—To 1 quart stewed pumpkin pressed thru a colander add enough rich milk to make the batter fill two good-sized pie plates, and season with teaspoon salt, ½ cup molasses or brown sugar, 1 tablespoon ginger and 1 teaspoon cinnamon or nutmeg. Bake in a moderate oven 45 minutes.—Helen Lyman, Berkshire Co., Mass.

Silver Pie.—Peel and grate one large white potato, add the juice and grated rind of 1 lemon, the beaten white of 1 egg, 1 cup white sugar, 1 cup cold water. Bake in a good pie crust—just a bottom crust. Beat the whites of 3 eggs stiff, add ½ cup sugar and flavor with lemon. Spread it on the pie and brown very lightly. Just before taking it to the table, dot with pieces of jelly. Eat warm.—Mrs. Cora Hamilton, Broome Co., N. Y.

SOME NOVEL DESSERTS

Sweet Potato Custard. — Beat 2 eggs, add 1½ cups milk, 2 tablespoons sugar and a little salt. Beat thoroly, then beat in ½ cup mashed sweet potatoes, ¼ teaspoon cinnamon and a dusting of nutmeg. Bake in a moderate oven in custard cups.

Pudding Sauce.—Blend together 1 cup sugar, 2 tablespoons butter and a dusting of salt. Bring 1 cup milk almost to boiling point and stir in 1 teaspoon cornstarch rubbed smooth in cold milk. Add the butter and sugar, remove from stove, stir in ½ cup cherries or any fruit from which the juice has been drained. Beat the whites of 2 eggs and add to the sauce. Serve either hot or cold.

Honeycomb Pudding. — One cup molasses, ½ cup butter, 1 cup raisins, 1 cup sweet milk, ½ teaspoon soda, 2½ cups flour, ½ teaspoon salt. Mix ingredients, put in steamer and steam three hours. Serve with a sauce made of 1 tablespoon flour, 2 level tablespoons butter, 1 cup strained honey, 1½ cups boiling water and ½ cup chopped walnut meats.—L. M. T., New York.

Plum Pudding. — One pound of currants, 1 lb. seedless raisins, 1 lb. suet, ¼ lb. candied lemon peel cut up fine, 1 lb. brown sugar, 1 lb. flour, 3 eggs, 1 teaspoon cinnamon, 1 teaspoon nutmeg, 1 small turnip, 1 small carrot and 1 small potato, each grated, and a small apple, diced. Mix with ¾ cup cider. Put in cloth and boil 8 hours.

Carrot Pudding.—One cup molasses, 1 teaspoon soda stirred into the molasses, 1 cup grated carrot, 1 cup grated white potatoes, 1 cup suet, 2 cups raisins, 1 cup dried currants, 2 cups flour; season with nutmeg, salt, lemon flavoring. Steam three hours.—H. L., Mass.

RYE BREAD RECIPE

Please give recipe for baking rye bread.—Mrs. Wm. Latham, Montgomery Co., Pa.

If you have a satisfactory sponge recipe for white bread use that and finish by mixing in rye flour instead of white to make a soft loaf dough; let rise and mix into loaves. When the loaves are thoroly light, bake in a moderate over one hour or perhaps a little longer.

Following is a good recipe for long-process bread sponge: Let 4 cups freshly boiled water cool to lukewarm (or instead use 2 cups boiled water and 2 cups boiled milk); soak one cake dry yeast in lukewarm water enough to soften, then add to the water (or milk and water) with 4 level tablespoons sugar, and enough flour to make a thin batter. The sugar helps the yeast plants to grow. Let this batter rise in a warm place over night. In the morning stir in 4 level teaspoons salt, 1 level tablespoon fat (lard, vegetable fat or butter), and enough rye flour to make a rather soft loaf dough; turn onto the bread board and knead until smooth and air bubbles appear near the surface of the dough. Put in a greased bowl, set in a warm place, and when the dough has doubled its bulk, make it into loaves. Let rise to double their bulk and bake as directed above in a moderate oven.

HOW ONE WOMAN KILLS A CHICKEN

When I desired to serve a chicken I used to depend upon the men folks to catch and kill the fowl. This was very unsatisfactory, because they were invariably busy and anxious to postpone the deed until some other time. Although it is not a pleasant task, necessity has compelled me to originate a method by which I can do it myself without help. At this time of year, when we have many young cockerels to eat off, I can catch them and dress them any time I desire.

Executing the Rooster.

I go to the hen-house after dusk, and with a flash light locate the cockerel that I want, then turn off the light and pick him off the roost in the dark, thus not disturbing the other fowls. I place him under a potato crate, and leave him until morning. Then I tie a slip noose in one end of a yard or more of coarse twine, take the cock from the crate, slip the noose over his head, draw it snugly, place his head upon the block, then at the right distance wrap the twine two or three times around my own foot, thus holding his head in place until I can cut it off.

After a farm woman has done this once or twice she will not hesitate afterwards, and she will find her independence in this respect a satisfaction and often a decided advantage.—Miss S. M. T., Tompkins Co., N. Y.

Inexpensive Mayonnaise
I can make myself, for Mother.

½ cup water
¼ cup vinegar
1 tablespoon flour
½ cup oil
1 egg yolk unbeaten

Put the water and vinegar on to boil, stir in the flour which should be mixed with 1 tablespoon of the oil. Boil until smooth and thick, take from fire and beat in egg yolk, then beat in rest of the ½ cup of oil, seasoning with salt and pepper. —Millicent Maull, Phila. Co., Pa.

WHAT WE NEED

Considered in the light of real practical economy, there is a vast difference between what we need and what we want. Years ago, when I was a "newly-wed," when my good husband was going to town, he always came and asked if there was anything I wanted. Years came and went, and as the family expenditures increased faster than the "good man's" salary did, he got into the habit of asking me if there was anything I needed, instead of wanted. Of course, we are very apt to think in terms of the inquiry as it is worded. And, therefore, where I had asked myself if there was anything we wanted, I now asked myself if there was anything we needed. Quite naturally, the answers were as widely different as the questions themselves. So it became my habit to eliminate the things from my list that I did not need. In the science of our domestic economy this was a great improvement, and one which many housewives might well apply to their affairs.

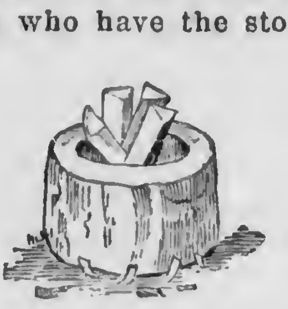
In the matter of clothes, this economic idea has been of great value to me. When I was an independent young school teacher, earning fifty dollars a month and paying ten dollars a month for board and room, I had to do some tall figuring to "make ends meet" for myself alone. Occasionally I humiliated myself to ask my father for ten dollars to help on my new winter coat, and never thought of saving a cent. But I had to go thru the mill of experience as many another has gone, in order to be able to make a success of managing. I remember now the teacher that taught across the hall from me who always placed half her salary in her savings account. But I could not do that because mine was spent before I got it, and I would not bank money when I had debts. I am very confident that I could now go back there under the same conditions and save as did that other teacher, simply because I have learned to buy only what I need.

There is a kind of "management" that I thoroly dislike, as well as the one I have mentioned above. That is the economy that sacrifices everything to itself. At a meeting of ladies one afternoon, I heard one woman say that she prided herself on her managing. She had earned her own clothes by giving music lessons since she was married, and her husband was working into his father's business. She had been too selfish to want children. Near her sat a little woman with a dress many times remodeled, but she was economizing that she might send her son and daughter thru college. I wanted to tell the first woman that she little knew what "management" was until she had made one dollar do the work of three, and made those sacrifices for the ones she loved.

In these strenuous times, when ordinary necessities are soaring away out of sight, when farm women see their winter coat vanish in hired help wages, we are all learning the lesson of "doing without." It is not so hard for those of us who have schooled ourselves in the art of buying what we need instead of what we want. The training is going to be good for every one of us. It is too bad that we could not all learn the lesson individually without being forced into it by these terrible economic conditions. And before things settle down again to normal conditions we may have to choose between what we need and what we cannot get along without. But thru it all, let us know that posterity shall be better for our training, and let us, as we grow into the newer ideal, lay aside selfishness, pride and striving after vain things.—Eugenia Grover Benn.

WOOD SPLITTING CONVENIENCE

Here is just the thing that will suit the farmer, the boys and the hired man who have the stove wood to split. Look at it, and see if it isn't about what you want. It is made of a hollow section of a tough log about ten or twelve inches long. It may be secured in place by stakes or pins driven beside it firmly into the ground, or fastened to a piece of heavy plank by means of four wooden pins passing thru the plank and into or outside of the hollow piece of log.—Maggie A. Cromlich, Cumberland Co., Pa.

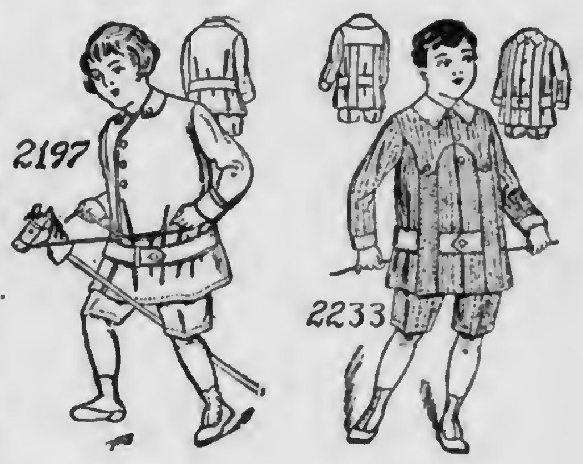


Wood Splitting device.

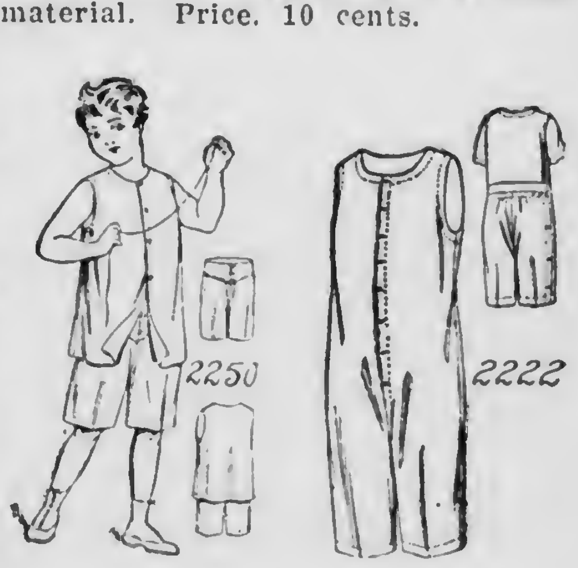
PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

2197.—A Natty Suit for Boy. —The lines are simple and the style is a comfortable one. The trousers are straight and with side closing. This pattern is cut in 4 sizes: 2, 3, 4 and 5 years. Size 4 will require 3¼ yards of 36-inch material. Price, 10 cents.



2233.—Popular Boys' Suit.—This style is good for wash materials, and for serge, cheviot, mixtures, corduroy and velvet. The yoke facings on the blouse may be omitted. The pattern is in 4 sizes: 3, 4, 5 and 6 years. Size 4 requires 2¾ yards of 36-inch material. Price, 10 cents.



2250.—Set of Underwear for Boys. —This is a good model for cutting over adult underwear for the boys. The pattern is in 5 sizes: 26, 28, 30, 32 and 34 inches breast measure. Size 32 requires 2⅞ yards of 36-inch material. Price, 10 cents.

2222.—Union Suit with or without Sleeves for Men and Boys.—The pattern is cut in 6 sizes: 28, 32, 36, 40, 44 and 48 inches breast measure. Size 36 requires 2⅞ yards of 36-inch material, without sleeves. With sleeves, it requires 3¼ yards of the same width. Price, 10 cents.

NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

SYNOPSIS OF PREVIOUS CHAPTERS

Henry de Spain is the new General Manager of the stage line running between the rich mines of the Spanish Sinks and the town of Sleepy Cat. He immediately gets in trouble with members of what is known as Morgan's gang whose headquarters are at Morgan's Gap. One of the Morgan followers, Sassoon, assaults one of the stage drivers, and is arrested by de Spain. The Morgans take this as an affront on their power, and set out to ''get'' de Spain. In the meantime, de Spain falls in love with Nan Morgan, niece of the ''gang'' leader. While the Morgans are trying to find ways of putting him out of the country, de Spain is trying to find ways of currying favor with Nan. Going to the Calabasas Inn to have a lunch prepared for Nan when she comes on the stage, de Spain is trapped by the leaders of the Morgan gang. Pitted against four men he succeeds in disabling three and gets out thru a window and onto a horse. Wounded and exhausted, he lets the horse go as he will.

CHAPTER XI.

After the Storm

It was well along toward midnight of the same day when two horsemen, after having ridden circumspectly around the outbuildings and corrals, dismounted from their horses at some little distance from the door of the Calabasas Inn. They shook out their legs as men do after a long turn in the saddle and faced each other in a whispered colloquy. An overcast sky, darkening the night, concealed the alkali crusting the riders and their horses; but the hard breathing of the latter in the darkness told of a pace forced for some hours.

"Find your feet before you go in, Pardaloe," suggested the heavier of the two men guardedly to the taller one.

"Does this man know you?" muttered the man addressed as Pardaloe, stamping in the soft dust and shifting slightly a gun harness on his breast.

"Pedro knows me," returned Lefever, the other man,. "but McAlpin says there is a new man here, a half-wit. They all belong to the same gang—coiners, I believe, every one of them. They work here and push in Texas."

"Can you spot the room when you get upstairs, where we saw that streak of light a minute ago?" demanded Pardaloe, gazing at the black front of the building.

"I can spot every foot of the place, upstairs and down, in the dark," declared Lefever, peering through the inky night at the ruinous pile.

Instead of meeting de Spain, as appointed, Lefever had come in from the Thief River stage with Scott three hours late only to learn of the fight at the Inn and de Spain's disappearance. Jeffries had already sent a party, of whom Pardaloe, a man of Farrell Kennedy's from Medicine Bend, had been picked up as one, down from Sleepy Cat, to look for the missing man, and for hours the search had gone forward.

"Suppose you go back to the barn," suggested Pardaloe, "and wait there while I go in and have a little talk with the landlord."

"Why, yes, Pardaloe. That's an idea," assented Lefever feebly. Then he laid the first two fingers of his fat right hand on the lapel of his companion's coat: "Where should you like your body sent?" he asked in feigned confidence. "Concerning these little details, it's just as well to know your wishes now."

"You don't suppose this boob will try to fight, do you, when he knows Jeffries will burn the shack over his head if another railroad man is attacked in it?" demanded Pardaloe.

"The most ruinous habit I have had in life—and first and last I have contracted many—has been, trusting other people," observed Lefever. "A man shouldn't trust anybody—not even himself. We can burn the boob's shack down—of course: but if you go in there alone the ensuing blaze would be of no particular interest to you."

"All right. We go in together."

"Not exactly that, either. You go first. Few of these forty-four bullets will go through two men at once."

Ignoring Lefever's pleasantry, Pardaloe, pulling his hat brim through force of habit well over his eyes, shook himself loose and, like a big cat walking in water, stepped toward the door. He could move his tall, bony frame, seemingly covered only with muscles and sinews, so silently that in the dark he made no more sound than a spectre. But once before the door, with Lefever close at hand, he pounded the cracked panels till the windows shook. Some time elapsed before there was any response. The pounding continued till a flickering light appeared at a window. There was an ill-natured colloquy, a delay, more impatience, and at length the landlord reluctantly opened the door.

He held in his hand an oil-lamp. The chimney had been smoked in such a way that the light of the flame was thrown forward and not back. Lefever in the background, nothing disturbed, threw a flashlight back at the half-dressed innkeeper. His hair was tumbled sleepily across his forehead and his eyes—one showing a white scar across the pupil—set deep in retreating orbits, blinked under heavy brows. "What do you want?" he demanded. Pardaloe, without answering, pushed through the half-open door into the room.

"We're staying here tonight," announced Pardaloe, as simply as possible. Lefever had already edged into the doorway, pushing the stubborn innkeeper aside by sheer bulk of weight and size.

The sleepy man gave ground stubbornly. "I've got no beds," he growled surlily. "You can't stay here."

Lefever at once assumed the case for the intruders. "I could sleep this minute standing on my head," he declared. "And as for staying here, I can't stay anywhere else. What's your name, son?" he demanded, buttonholing in his off-hand way the protesting man.

"My name is Philippi," answered the one-eyed defiantly.

"Regards to Brutus, my dear fellow," retorted Lefever, seizing the man's hand as if happily surprised.

"You can't crowd in here, so you might as well move on," declared Philippi gruffly. "This is no hotel."

Lefever laughed. "No offense, Philippi, but would it be indiscreet to ask which side of your face hurts the most when you smile?"

"If you've got no beds, we won't bother you long," interposed Pardaloe.

"I'd like a pitcher of ice-water, anyway," persisted Lefever. "Sit down, noble Greek; we'll talk this over."

"Who are you fellows?" demanded Philippi, looking from one to the other.

"I am a prospector from the Purgatoire," answered Pardaloe.

Philippi turned his keen eye on Lefever. "You a railroad man?"

"No, sir," declared Lefever, dusting the alkali vigorously from his coat sleeve.

"What are you?"

John looked as modest as it was possible for him to look. "Few people ask me that, but in matter of fact I am an objet d'art."

"What's that?"

"Different things at different times to different men, Philippi," answered Lefever simply, exploring, while he spoke, different corners of the room with his flashlight. "At this moment—" he stopped suddenly, then resumed reassuringly—"I want a drink."

"Nothing doing," muttered the landlord sulkily.

Lefever's flashlight focused on a United States license hanging back of the bar. "Is that a mere frame-up, Philippi?" he demanded, walking significantly toward the vender's authority.

"Nothing in the house tonight."

"Then," announced Lefever calmly, "I arrest you."

Philippi started. "Arrest me?"

"For obtaining a thirst under false pretenses. Come, now, before we slip the irons on, get us something to eat. I'll go upstairs and pick out a room to sleep in."

"I tell you," insisted Philippi profanely, "there are no rooms for you to sleep in upstairs."

"And I," retorted Lefever, "tell you there are. Anyway, I left a sewing machine upstairs here three years ago, and promised to keep it oiled for the lady. This is a good time to begin."

With Lefever making the old steps creak, ahead, and Pardaloe, with his long, soft, pigeon-toed tread close behind, the unwilling landlord was taken up the stairs, and the two men thoroughly searched the house. Lefever lowered his voice when the hunt began through the bedrooms—few of which contained even a bed—but he kept up a running fire of talk that gave Philippi no respite from anxiety.

Outside the kitchen quarters, which likewise were rigorously searched, not a soul could be found in the house. One room only, over the kitchen, gave hope of uncovering something. The party reached the door of this room through a narrow, tortuous passageway along an attic gable. The door was locked. Philippi told them it belonged to a sheep-herder who did not use it often. He protested he had no key. Pardaloe knocked and, getting no response, tried unsuccessfully to force the lock. Lefever motioned him aside and, after knocking loudly on the door himself, laid his shoulder against it. The door creaked and sprung in crazy protest. The panels cracked, the stubborn frame gave, and with a violent crash Lefever pushed completely through the locked barrier and threw his flashlight inside. Pardaloe, urging the unwilling Philippi ahead, followed.

The room, unfinished under the rafters, was destitute of furnishings, and bore traces of long disuse. Stretched on the floor toward the middle of it, and side by side, lay two men. One of them was very large, the other not more than half his companion's size. Lefever kneeling over the man nearest the door listened for signs of breathing, and laid his head to the man's heart. Having completed his examination, he went around to the other—Pardaloe and Philippi silently watching—and looked him over with equal care. When he had done, he examined, superficially, the wounds of each man. Rising, he turned toward Philippi. "Were these men dead when you brought them up here?"

"I didn't bring 'em up," growled Philippi.

"You know them, Pardaloe?" asked Lefever. Pardaloe answered that he did. Lefever turned sharply on Philippi. "Where were you when this fight was going on?"

"Down at the stage barn."

"Getting your alibi ready. But, of course, you know that won't let you out, Philippi. Your best chance is to tell the truth. There were two others with this pair—where are Gale Morgan and Sassoon?"

"Satt Morgan was here with hay today. He took them over this evening to Music Mountain."

"Where were they hit?"

"Morgan was hit in the shoulder, as far as I heard. Sassoon was hit in the side, and in the neck."

"Where is de Spain."

"Dead, I reckon, by this time."

"Where's his body?"

"I don't know."

"Why do you think he is dead?"

"Sassoon said he was hit in the head."

"Yet he got away on horseback!"

"I'm telling you what Sassoon said; I didn't see him."

Lefever and Pardaloe rode back to the stage barn. "Certainly looks blue for Henry," muttered Lefever, after he had gone over with Pardaloe and McAlpin all of the scant information that could be gathered. "Bob Scott," he added gloomily, "may find him somewhere on the Sinks."

At Sleepy Cat, Jeffries, wild with impatience, was on the telephone. Lefever, with McAlpin and Pardaloe standing at his side, reported to the superintendent all he could learn. "He rode away—without help, of course," explained Lefever to Jeffries in conclusion. "What shape he is in, it's pretty hard to say, Jeffries. Three more of the bunch, Vance Morgan, Bull Page, and a lame man that works for Bill Morgan, were waiting in the saddle at the head of the draw between the barn and the hotel for him if he should get away from the inn. Somehow, he went the other way and nobody saw hide nor hair of him, so far as I can learn. If he was able to make it, Jeff, he would naturally try for Sleepy Cat. But that's a pretty fair ride for a sound man, let alone a man that's hit—and everybody claims he was hit. If he wasn't hit he should have been in Sleepy Cat long before this. You say you've had men out across the river?"

"Since dark," responded Jeffries. "But, John," he asked, "could a man hit in the way de Spain was hit, climb into a saddle and make a getaway?"

"Henry might," answered Lefever laconically.

Scott, with two men who had been helping him, rode in at two o'clock after a fruitless search to wait for light. At daybreak they picked up the trail. Studying carefully the room in which the fight had taken place, they followed de Spain's jump through the broken sash into the patio. Blood that had been roughly cleaned up marked the spot where he had mounted the horse and dashed through an open corral gate down the south trail toward Music Mountain. There was speculation as to why he should have chosen a route leading directly into the enemy's country, but there was no gainsaying the trail—occasional flecks of blood blazed the direction of the fleeing hoofs. These led—not as the

trailers hoped they would, in a wide detour across easy-riding country toward the north and the Sleepy Cat stage road—but farther and farther south and west into extremely rough country, a no man's land, where there was no forage, no water, and no habitation. Not this alone disquieted his pursuers; the trail as they pursued it showed the unsteady riding of a man badly wounded.

Lefever, walking his horse along the side of a ridge, shook his head as he leaned over the pony's shoulder. Pardaloe and Scott rode abreast of him. "It would take some hit, Bob, to bring de Spain to this kind of riding."

Beyond the ridge they found where he had dismounted for the first time. Here Scott picked up five empty shells ejected from de Spain's revolver. They saw more than trace enough of how he had tried to stanch the persistent flow from his wounds. He seemed to have worked a long time with these and with some success, for his trail thereafter was less marked by blood. It was, however, increasingly unsteady, and after a time it reached a condition that led Scott to declare de Spain was no longer guiding Sassoon's pony; it was wandering at will.

Confirmation, if it were needed, of the declaration could soon be read in the trail by all of them. The horse, unrestrained by its rider, had come almost completely about and headed again for Music Mountain. Within a few miles of the snow-covered peak the hoof-prints ran directly into the road from Calabasas to Morgan's Gap and were practically lost in the dust of the wagon road.

"Here's a go," muttered Pardaloe at fault, after riding back and forth for a mile in an effort to pick the horse up again.

"Remember," interposed Scott mildly, "he is riding Sassoon's horse—the brute is naturally heading for home."

"Follow him home, then," said Lefever unhesitatingly.

Scott looked at his companion in surprise: "Near home, you mean, John," he suggested inoffensively. "For three of us to ride into the Gap this morning would be some excitement for the Morgans. I don't think the excitement would last long—for us."

The three were agreed, however, to follow up to the mouth of the Gap itself, and did follow. Finding no trace of de Spain's movements in this quest, they rode separately in wide circles to the north and south, but without picking up a hoof-print that led anywhere or gave them any clew to the whereabouts of the missing man.

"There is one consolation," muttered Lefever, as they held to what each felt to be an almost hopeless search. "As long as Henry can stick to a saddle he can shoot—and the Morgans after yesterday afternoon will think twice before they close in on him, if they find him."

Scott shook his head: "That brings us up against another proposition, John. De Spain hasn't got any cartridges."

Lefever turned sharply: "What do you mean?"

"His belt is in the barn at Calabasas, hanging up with his coat."

"Why didn't you tell me that before," demanded Lefever indignantly.

"I've been hoping all the time we'd find Henry, and I wouldn't have to tell you."

In spite of the hope advanced by Lefever that de Spain might by some chance have cartridges in his pocket, Scott's information was disquieting. However, it meant for de Spain, they knew, only the greater need of succor, and when the news of his plight was made known later in the day to Jeffries, efforts to locate him were redoubled.

For a week the search continued day and night, but each day, even each succeeding hour, reduced the expectation of ever seeing the hunted man alive. Spies working at Calabasas, others sent in by Jeffries to Music Mountain among the Morgans, and men from Medicine Bend haunting Sleepy Cat could get no word of de Spain. Fairly accurate reports accounted for Gale Morgan, nursing a wound at home, and for Sassoon, badly wounded and under cover somewhere in the Gap. Beyond this, information halted.

Toward the end of the week a Mexican sheep-herder brought word in to Lefever that he had seen in Duke Morgan's stable Sassoon's horse—the one on which de Spain had escaped. He averred he had seen the blood-stained Santa Fe saddle that had been taken off the horse when the horse was found at daybreak of the day following the fight, waiting at Sassoon's corral to be cared for. There could be, it was fairly well ascertained, no mistake about the horse: the man knew the animal; but his information threw no light on the fate of its missing rider.

Though Scott had known first of de Spain's helpless condition in his desperate flight, as regarded self-defense, the Indian was the last to abandon hope of seeing him alive again. One night, in the midst of a gloomy council at Jeffries' office, he was pressed for an explanation of his confidence. It was always difficult for Scott to explain his reasons for thinking anything. Men with the surest instinct are usually poorest at reasoning a conviction out. But Bob, cross-examined and harried, managed to give some explanation of the faith that was in him. "In the first place," he said, "I've ridden a good deal with that man—pretty much all over the country north of Medicine Bend. He is as full of tricks as a nut's full of meat. Henry de Spain can hide out like an Indian and doctor himself. Then, again, I know something about the way he fights; up here, they don't. If those four fellows had ever seen him in action they never would have expected to get out of a room alive, after a showdown with Henry de Spain. As near as I can make out from all the talk that's floating around, what fooled them was seeing him shoot at a mark here one day in Sleepy Cat."

Jeffries didn't interrupt, but he slapped his knee sharply.

"You might just as well try to stand on a box of dynamite, and shoot into it, and expect to live to tell it," continued Scott mildly, "as to shoot into that fellow in a room with closed doors and expect to get away with it. The only way the bunch can ever kill that man, without getting killed themselves, is to get him from behind; and at that, John, the man that fires the gun," murmured the scout, "ought to be behind a tree."

"You say he is hit. I grant it," he concluded. "But I knew him once when he was hit to lie out in the bush for a week. He got cut off once from Whispering Smith and Kennedy after a scrimmage outside Williams Cache two years ago."

"You don't believe, then, he's dead, Bob?" demanded Jeffries impatiently.

"Not till I see him dead," persisted Scott unmoved.

(To be continued.)

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Nov. 19, 1917.

Notwithstanding the embargo which was placed against the shipment of potatoes to this market by the Reading Railroad over two weeks ago and which is still in force, there are still more potatoes in Philadelphia than are required for immediate demand. On Monday there were 89 cars in the Pennsylvania delivery yard, 72 cars in the Reading delivery yards, and 45 cars outside waiting placement in the delivery yards. Under these liberal supplies the market is ruling weak and the movement has been slow with prices ranging from 15 to 25 cents per hundredweight lower than last week's quotations. Pennsylvanias now selling at $2.25 to $2.60 per cwt. and New York State from $2 to $2.35 per cwt. Some of the offerings are hardly good enough in quality to bring the lower range. Eastern Shore barrels are bringing from $3 to $3.75, with anywhere from 1 to 4 cars arriving daily. The nearby farmers are also hauling in their normal supplies for this season of the year and these are selling at 75 to 90 cents per ⅝ bushel basket.

Southern sweet potatoes are showing quite a range in price, some of them showing the effects of cold weather and sold as low as $1 per barrel, while others showing good quality have sold from $2 to $2.25 per barrel. Quite a few New Jersey house sweets are now making their appearance and these are finding a ready market at from 90 cents to $1.10 per ⅝ bushel basket.

Vegetables

The dried bean market is without quotable change. Choice hand-picked marrows are selling at $9.50; pea and medium, $9 to $9.25, and red kidney at $8.50 per bushel. Strong beans, both green and wax, are firm under very limited supplies. Green sell all the way from $3.50 to $5.50 a hamper, and wax from $3.50 to $5. Winter beets are in light supply and rule firm at $2.75 to $3 per barrel. The embargo on cabbage by the Reading Railroad is still in force altho supplies have been materially reduced, there now being only 81 cars here against 150 cars a week ago. The feeling is slightly better on strictly fancy green Danish, which is selling at $25 to $28 per ton, but there is practically no demand for domestic which moves slowly at $15 to $20 per ton. Cauliflower is very plentiful and the market is much lower than last week, best stock now only selling at $1.75 per crate. Celery is quite plentiful and moving slowly and showing a wide range. Sales are made all the way from 15 to 65 cents a bunch. Good egg plants continue scarce and bring good prices, best stock, $4.50 to $5 per crate; lower grades, $2 to $2.50 per crate. Horse radish remains unchanged at $4.50 to $8 per barrel. Lettuce is quite plentiful but selling well when fancy. New York and New Jersey stock, which is generally poor, ranges from 50 cents to $1.25 per box. Virginia lettuce in hampers sells all the way from $1 to $2. Mushrooms are in light supply and higher, bringing from 40 to 50 cents a pound.

Onions are in liberal supply and moving slowly, most sales averaging $2.75 per 100-pound sack, no matter from what sections they may be. Parsnips show no change, selling generally from 50 to 60 cents a Jersey basket. Pumpkins continue plentiful and low prices; $3 to $8 per hundred. Scullions are in fair supply and meeting a fair demand at $1 to $1.50 per hundred. New Jersey spinach has been meeting a good demand and the market is strong at 40 to 50 cents per ⅝-bushel basket. White turnips are very plentiful and the market rules a shade easier at 25 to 40 cents per ⅝-bushel basket. Pennsylvania yellow turnips are very scarce and when here are selling readily at 80 to 90 cents per ⅝-bushel basket. Yellow Aberdeens are about steady at 40 to 50 cents. Rutabagas in light supply and practically unchanged at $1.25 to $1.75 per cwt.

Fruits

It might be interesting at this time to give a report of the holding of apples in the United States as given out by the Bureau of Markets, Department of Agriculture. This report is as follows: The 486 storage plants that reported showed total stocks of 2,404,207 barrels and 2,388,483 boxes of apples. The 453 storages reported for November 1, this year and last, show present holding of 2,344,861 barrels, and 2,322,954 boxes, a decrease of 8.3 percent in the barrel apples and an increase of 6.1 percent in the box apples, which is equivalent to a total decrease of 4.3 percent in the total apple holdings. According to report from 390 storages a quantity equal to 68.6 percent of the amount in storage December 1, 1916, was on hand Nov. 1, 1917, while according to reports from 292 storages last year, 73.8 percent of the amount on hand Dec. 1, 1916 was stored by Nov. 1 of that year.

The apple market opened this week in good shape. There was a large percent of fancy fruit among the offerings which sold quickly at outside quotations. The market is generally unchanged, however, on ordinary to good apples. The range of prices is as follows: Baldwins, $2.50 to $5; Ben Davis, $2 to $4; Black Bens, $2.50 to $4.50; Black Twig, $2.75 to $5; Gano, $2.50 to $3.75; Greenings, $3 to $5.75; Grimes Golden, $3.50 to $6; Starks, $3 to $4.50; Spys, $3.50 to $5.50; Kings, $3.50 to $6.50; Twenty Ounce, $4 to $5; Staymans, $3.50 to $6.50; Snows, $3.50 to $5.50; Jonathans, $4 to $6; York Imperials, $3 to $5; Winesaps, $3 to $5; Wagner, $4 to $5.25. Odd, unclassified and mixed varieties, $2 to $4. Western box apples are selling about as follows; Rome Beauties, $2 to $2.50; Jonathans, $1.50 to $2.25; Pearmains, $1.75 to $2.25; Spitzenbergs, $2 to $3. Bulk apples show no change from last week, ranging generally from $1.50 to $1.75 per cwt.

Pears are in much more liberal supply than last week and only strictly fancy eating varieties are active, cooking stock moving very slowly. Bartletts ranged from $1 to $1.75 per bushel; seckels, $5 to $8 per barrel; Sheldons, $10 per barrel; Duchess, $3.75 to $4 per barrel. Demand for Kieffers was very limited, prices ranging from 15 to 50 cents a Jersey basket. Grapes are winding up the season very weak, Concords selling at 25 to 40 cents Jumbo basket with Pony at 12 to 15 cents. Altho cranberries are moving a little more freely there is more pressure to sell barrels selling at $9 to $12 and crates from $2.50 to $3.50. Chestnuts continue in light supply and market firm at $6.50 to $8 per bushel.

Poultry

The live poultry market is ruling firm with prices generally unchanged from last week on all desirable size stock, demand for which continues fully equal to the light offerings. Quotations range as follows: Fowl, 20 to 24 to 24 cents; ducks, 21 to 23 cents. Demand for turkeys for the coming Thanksgiving Holiday is quite active and fancy stock sells up to 32 cents and poor grades on down to 28 cents. Guineas, 60 to 90 cents per pair; pigeons, 20 to 28 cents per pair.

Dressed poultry continues in active demand and is cleaning up promptly on arrivals. The trade is making inquiries for its Thanksgiving turkeys and these are moving promptly when fancy at 32 to 35 cents; common and ordinary, 28 to 30 cents. Fancy heavy fowl are firm at 25 to 27 cents; smaller size steady at 22 to 24 cents. Old roosters, 21 to 22 cents, roasting chickens, 22 to 26 cents; broilers, 30 to 36 cents; ducks, 26 to 28 cents.

Eggs

Fancy new laid eggs are scarce and the market is firm and higher under an active demand. Nearby first are now selling at 50 to 51 cents per dozen; current receipts, 49c. Under grade eggs are quite plentiful and selling slowly at 41½ to 44 cents per dozen. Selected, carefully graded, well-candled eggs are jobbing out at 58 to 60 cents a dozen.

LANCASTER PRODUCE

Lancaster, Pa., Nov. 19, 1917.

Potatoes made their first decline on some details on some stalls today, altho last week's prices were generally maintained. Thousands of bushels of potatoes are being shipped out of the county, and big concerns, advertising for supplies for their employes, are unable to secure them. Eggs reached as high as 60 cents per dozen but later dropped to 58 cents. There was very little produce of any kind displayed.

Butter and Eggs.—Creamery butter, 52 @55c per lb; country butter, 50@55c; fresh eggs, 55@58c per dozen.

Poultry.—Dressed old chickens, $1.25@1.50; dressed young chickens, 75c@$1; live chickens, $1.50@2 per pair; live old chickens, 18 cents per lb.

Vegetables and Fruits.—Lima beans, 18c pint; dry onions, 5@10 box; cauliflower, 15 @20c head; eggplant, 5@10c each; cabbage, 2@8c head; sweet potatoes, 30c ½ pk; potatoes, $1.15@1.50 bu; do., 18@22c ½ pk; new turnips, 15c ½ pk; spinach, 5c ½ pk; parsnips, 5c box; pears, 20@25c ½ pk; apples, 20@30c ½ pk.

Grain Market.—Dry wheat, $2 bu; milling wheat, $2; damp wheat, $1.75; corn, $2; rye, $1.60; oats, 65c; No. 1 timothy hay, $20 per ton; straw, $9; wheat straw, $10.

YORK PRODUCE MARKET

York, Pa., Nov. 19, 1917.

There was a large number of buyers at the markets this week. Also, there was quite a quantity of produce offered in the line of fruits and vegetables. Cabbage and turnips are not plenty. Eggs are advancing slowly but still one can get more from the dealer for first-class stock than from the consumer. Last week we received 56 cents from the dealer while but few at the markets realized more than 50 cents. Apples are picking up somewhat. Prime apples being sold at 30 to 35 cents per ½ pk., and such as Stayman being started at $2 a bushel.

cents; roosters, 18 to 19 cents; chickens, 20

Eggs.—50@55c per dozen.

Butter.—Country, 45@48c lb; separator, 48@50c. Milk, 10c quart.

Poultry.—Hens, 18@20c lb; dressed, 50c @$1.25 each.

Vegetables. — Potatoes, 12@20c ½-pk; $1.10@1.35 per bushel; cabbage, 3@10c; lettuce, 3@6c hd; beets, 3@5c bx; radishes, 6c bch; onions, 12c bx; 25@30c ½ pk; lima beans, 35c qt; soup beans, 35@40c qt; celery, 5@10c stalk; tomatoes, 10c bx; turnips, 25@30c ½ pk; eggplants, 3@8c each; corn meal, 10@12c qt.

Fruit.—Apples, 12@35c ½ pk; pears, 5 @10c bx; 15c ½ pk; chestnuts, 25c qt; hickory nuts, 30c qt.

Retail Grain Market. — Wheat, $2.25; corn, $2.25; oats, 85c; rye, $1.65; bran, $2 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $2.07; corn, $2; rye, $1.25; oats, 70c; bran, $34.50 @38 ton; middlings, $53@58 ton.

NEW YORK PRODUCE

New York City, Nov. 19, 1917.

Fine butter very scarce and higher. Cheese market quiet but steady. Fresh eggs firm. Delayed poultry shipments selling slowly, but fancy grades are firm. Apples firmer. Potatoes weak. Most vegetables plentiful.

Butter.—Creamery, extras (92 score), per pound, 45½c; higher score, 46@46½c; thirds to firsts, 38@45c; state dairy, 36@44c; ladles, 31@34c.

Cheese.—Flats, specials, 24@24½c; do., colored, 23½c; prime, 22@22½c.

Eggs. — Fresh gathered extras, 54@55c; extra firsts, 52@53c; nearby white, fine to fancy, 75@80c; ordinary to good, 60@72c; browns, 55@61c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 38@40c; old roosters, 19c; squabs, $2.75@6.50 per dozen. Spring ducks, per lb., 26c; turkeys, fresh killed, 31@32c.

Vegetables and Greens.—Beets, bbl., $2.50 @3. Onions, per 100-lb. bag, $2.25@3.50. Potatoes, Jersey, $2.75@3.25 bbl; state and western, $3.75@4 per bbl. Carrots, $1.50 @2.25 bbl.

Apples.—Wealthy, $4@5 bbl; McIntosh, $4@7; Jonathan, $4@6.50; York Imperial, $4@5; Twenty Ounce, $4@5.50; King, $4 $5.25; Baldwin, $4@4.75.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., Nov. 19, 1917.

Beef Cattle.—There was no particular activity in the market for any description and prices were without important change. Offerings were moderate but sufficient to cover requirements.

Steers, best, $12.50@14; fair to good, $11 @12.50; common, $9.50@11; bulls, $6.25@8.50; extra choice higher; cows, fat, per lb., 7½@8½c; extra choice higher; medium per lb., 6½@7½c; ordinary, per lb., 4½@5½c; calves, exceptional lots, $15.50; a few as high as $16; good to choice, $13@14.50; medium, $10@11.50; common, $7.50@8.50; Tennessee and southern, $7.50@13.

Hogs.—Demand was fairly active and values were well maintained with offerings only moderate. Quotations for best western, $19@19.50.

City Dressed Stock.—There was a moderate inquiry and prices of calves and cows were slightly firmer. Lambs and steers ruled weak and slightly easier, but demand was fair at revised figures.

Steers, 15@20c; heifers, 14@18c; cows, 10 @17c; calves, 22@23c; southern and barnyards, 16@18c; country dressed, 19c; do., extras, 20c; sheep, 21c; do., extras, 22c; lambs, 25c; do., extras, 26c; hogs, 25¼c.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., Nov. 19, 1917.

The receipts of cattle for today's market were 140 cars as compared with 235 cars last Monday, showing a decrease of 95 cars. Today's supply came from Virginia, 52 cars; Chicago, 45 cars; Buffalo, 28 cars; Pennsylvania, 6; N. Y. State, 3; Pittsburgh, 3; St. Paul, 2; St. Louis, 1. It was the smallest Monday supply for the past four months. The attendance of buyers was fair, but quite a few cattle remained unsold.

Among the receipts were a good many cattle that had weight and flesh and some with very good quality, and carrying quite a little fat. In sympathy with increased cost of all kinds of beef cattle at Western markets, everything in the killing line sold higher. The better grades 25 cents higher; fair to medium grades, that is, the kind that sold from $8.50 to $11 last week, sold fully 40 cents higher, and particularly heifers and cows for butchers' uses.

Best beef cattle came from Chicago. They weighed 1,220 lbs. and sold at $12.75. One bunch of 15 head of Virginia steers weighing 1,275 lbs. sold at $12.75. Another carload of Virginia steers weighing 1,250 lbs. sold at $12.50. One of 15 head of Canadian butcher cattle weighing 1,240 lbs. sold at $12.50. A good many bunches of 10 to 15 head, as well as carload lots, of steers for butchers uses, weighing 900 to 1,000 lbs. sold at $10.50 to $11.40. Fat cows sold 25 to 40 cents higher than a week ago. A good kind weighing 1,050 lbs. sold at $8.50 to $8.75. Those weighing 950 lbs. sold at $7.80 to $8.25. A fair kind went at $6.50 to $7.50. Bologna cows that came from Virginia sold at $4.75 to $5.25, and bologna cows from Pennsylvania and N. Y. State sold at $4 to $5.

Fancy prices were paid for fancy feeders. One bunch of dehorned Canadian feeders weighing 1,317 lbs. was taken by a Lancaster County farmer at 13½ cents per lb. They looked like fat cattle. One bunch of 10 head dehorned Durhams that weren't fat cattle, and were strictly good feeders, was taken at 13 cents per lb. They weighed 1,186 lbs. A lot of Canadian steers averaging 1,280 sold at $12.75; 10 head averaging 1,180 lbs. at $12.15. There were a large number of sales of a fair to pretty good class of feeders weighing 775 to 875 at prices ranging from $10 to $10.50. A fair grade weighing 800 to 900 lbs. sold at $9 to $9.75, and a plain kind of the same weights at $8.50 to $8.75. Several sales of nice little yearlings weighing 500 to 600 lbs. were made at $8.75 to $9.50. A plain to fair class of light weights, 600 to 700 lbs. sold at a wide range of prices, some as low as $6.25 and some as high as $8.

At the close of business quite some cattle in the stocker and feeder line were unsold. This fact was due to their late arrival, rather than to oversupply or indifference of buyers.

A few weeks ago the writer advised prospective purchasers to take some cattle and predicted that if they didn't, such an opportunity would not occur again. The writer claims no gift of "second sight", but anybody who has regularly read this column, will agree that he has made no "wild" guesses on the stocker and feeder market this season. Of course very few took him seriously, but now that the season is rapidly nearing the end, he finds some satisfaction in being able to say, and truly too, "I told you so".

PITTSBURGH LIVE STOCK

Cattle.—Today's cattle supply was 100 loads. Under a moderate demand the market ruled fairly active and higher on all desirable grades.

Good to choice	$12.75@13.50
Medium to good, 1200-1300 lb.	10.75@11.75
Tidy, 1050-1100 lb.	10.25@11.25
Common, 700-900 lb.	6.00@ 7.00

Calves.—Receipts of calves light and market steady. Today's receipts were 600 head. Market ruled higher.

Veal calves	$11.00@15.00
Heavy and thin calves	5.00@ 9.00

Hogs.—Today's supply was 90 double-deck loads. Market ruled lower than Saturday.

Prime heavies	$17.75@
Heavy mixed	17.65@
Best heavy Yorkers	17.55@
Good pigs	17.25@17.40

Sheep and Lambs.—Today's receipts were 20 double-deck loads. With the demand a little better the market ruled fairly active and higher on lambs, and strong on choice sheep, but other grades sold steady.

Prime wethers (95 to 100 lb.)	$11.25@11.75
Good mixed	10.25@11.00
Culls to choice yearlings	9.50@12.50
Spring lambs	12.00@16.75

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Nov. 19, 1917.

Baled Hay and Straw.—Receipts, 312 tons of hay and no straw. Desirable grades of hay were well cleaned up and the market ruled firm with some fancy stock commanding a premium. Straw was in small supply and firm.

Timothy hay, according to location: No. 1 large bales, $27@27.50; No. 1 small bales, $27@27.50; No. 2, $26@26.50; No. 3, $23@24.50. Clover mixed hay: Light mixed, $26 @26.50; No. 1, do., $25@25.50; No. 2, do., $22@23.

Straw.—No. 1 straight rye, $17; No. 2, do., $16@16.50; No. 1 tangled rye, $16; No. 2, do., $15@15.50; No. 1 wheat straw, $14@14.50; No. 2, do., $13@13.50; No. 1 oat straw, $14@14.50; No. 2, do., $13@13.50.

Bran.—Offerings were moderate and values were well maintained, but trade was quiet. Quotations (car lots, including sacks):

Soft winter bran, in 100-lb. sacks, per ton, $39.50@40; spring bran, in 100-lb. sacks, per ton, $39@39.50.

Wheat.—No. 2 red, $2.24; No. 3 red, $2.21.

Corn.—No. 2 yellow, $2.35@2.40.

Oats.—No. 2 white, new, 72@72½c.

Rye.—Nearby, $1.73@1.78.

NEW YORK HAY AND GRAIN

New York City, Nov. 19, 1917.

Feed.—Strong prices featured the trade during the past week and prices closed at the top of the upward movement, Western grades leading the upturn. Mills reported a good demand for extremely limited, and, as they are now sold well ahead, the tendency is to refuse further contracts. The traffic conditions are against important dealings especially with Eastern points. City feeds were also stronger. However, the demand was not urgent. Mills are complaining about the difficulty in making shipments to outside points, and, as the output is good, stocks are bound to accumulate. Quoted Western spring in 100-pound sacks $39; standard middling, $43; flour in 100-pound sacks, $52 to arrive; red dog to arrive in 100-pound sacks, $62.50; city feed, bulk bran, $38; 100-pound sacks, $39; heavy feed, $42; red dog, $63; flour, $62. Linseed oil meal, $55 per ton.

Hay and Straw.—Market is still lightly supplied and recent high prices are maintained at all sheds, with occasional sales above our outside figures.

Hay.—No. 1 timothy, $34; No. 2, $32@33; Fancy light clover, $32@33; mixed, $26@28.

Wheat.—No. 2 red, $2.25.

Corn.—No. 2 yellow, new, $1.65.

Oats.—No. 2, 74c.

Rye.—$1.88½.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Nov. 19, 1917.

Butter.—The usual Saturday quietude prevailed in this market, but values were firmly maintained on the better grades of solid-packed creamery, supplies of which were small. Much of the supply, however, was of unattractive stock, which was quiet and irregular in value. Prints of fine quality were scarce and firm, demand being fairly active, but medium and low grades sold slowly and ruled weak.

Western, fresh, solid-packed creamery, extra, 45c; higher scoring goods, 46@47c; extra firsts, 44@44½c; firsts, 43@43½c; seconds, 41@42c; sweet creamery, extra, 40c; undergrades, 43@45c; nearby prints, fancy, 49c; average extras, 46@48c; firsts, 44@45c; seconds, 41@43c; special fancy brands of prints were jobbing at 52@55c.

Cheese.—The market ruled firm at the recent advance, but wholesale trade was quiet.

New York, full cream, fancy, June 25½c; special higher; do., fresh made, best, 22½ @23½c; do., fair to good, 22½@23c.

NEW YORK MILK MARKET

New York City, Nov. 19, 1917.

The cool weather upstate is driving cattle off from pastures and shortening the supply. It is only slightly in excess of demand. The directors of the Dairymen's League at a special meeting held in this city on Tuesday, November 13, voted that the December rates should be the same as those in October. This action was taken as a result of the conference with Mr. Hoover, representatives of the New York food administration and of the distributors. A Federal Commission is to study costs of production and delivery. If it finds that the dairymen are producing at a loss, it is understood that they will be permitted to make rates in January, February and March which will offset the loss in December. The reduced rate to the producers was the method taken to prevent a further raise to the consumer.

The League rates for November to the producer of Grade B (barn score 55) in the first district are as follows: $3.34 a hundred for 3 percent milk; $3.55, or approximately 7½ cents a quart for 3.6 percent; and 3.69, for 4 percent. Receipts of milk and cream in 40-quart cans for the week ending November 17 were as follows:

Railroad	Milk	Cream
Erie	38,024	1,428
Susquehanna	4,663	40
West Shore	9,450	845
Lackawanna	55,110	1,435
N. Y. Central (long haul) including Rutland	107,817	1,690
Ontario	38,910	1,590
Lehigh Valley	41,177	376
New Haven	3,683	
Pennsylvania	7,925	78
Other sources	5,610	145
Totals	302,369	7,667
Same week last year	319,137	8,224

TOBACCO MARKET

All buyers' ruses have failed and it is now a cold fact that the Pennsylvania tobacco crop is being rapidly taken at prices almost wholly in keeping with the ideas of growers, as compared in past years when prices were made largely by buyers. It is stated that speculators are undaunted by high prices and that they are bidding right along in competition with the large concerns. It is estimated that not less than one-half of the year's product has been sold and at the present rate the unsold crops will be few by the middle of December. With reference to quotations, it may be said that hail cut and frosted tobacco has sold at prices about equal to what was paid for the better grades last year and that sound offerings sold all the way from $25 to $29 per cwt. Following are illustrative prices of crop lots: Many crops at $24 and 10; others at $24 thru; others at $25, 15, 10 and 4; some at $24, 12 and 6, and still others at $22, 12 and 5 per cwt. Despite present inducements there are those who would not sell at less than $30 per cwt. and if such holders have a good article it is pretty safe to assume they will get that price. Many experienced speculators are of the opinion that $30 could be paid with a fair chance of profit. Thus far, but small amounts of the new crop have been stripped, owing to slow curing weather. Those who have had an opportunity to judge the quality of their product report it good, and better than expected.—H. E. Tweed, Nov. 19, 1917.

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LATE BULLETINS

Winter Storage of Vegetables.—This is the title of a new bulletin just put out by the New Jersey Experiment Station. The bulletin covers storage cellars, handling potatoes, squash, pumpkins, cabbage, cauliflower, spinach, celery, beets, carrots, winter radishes and turnips. The following general principles are laid down as points to be observed whenever vegetables are to be stored: Vegetables should not be immature or too old. Handle every specimen with care; decay usually starts where the vegetables have been bruised. If the tender vegetables have been exposed to frost before they reach storage, they are not likely to keep well. Even the hardy vegetables, such as beets, cabbage, turnips and celery, may be injured by freezing before they are stored. A fairly constant temperature and ventilation are essential for all vegetables, but some require a moist, cool atmosphere while others require a dry atmosphere and a higher temperature. Accordingly, all vegetables should not be stored in the same place. The bulletin is free upon request at the above station, New Brunswick, N. J.

Miscellaneous Experiments.—Bulletin No. 147, of the Pennsylvania Experiment Station, just out, gives reports on a number of timely experiments. Subjects covered include report of swine fattening experiment, care of brood sows, cross-breeding experiment with sheep, maintenance of breeding flocks of mutton and wool sheep, steer feeding experiments, corn stover silage, silage and mixed hay roughage for dairy cows, fertilizer results, relative results of the use of limestone of different degrees of fineness, time and depth of plowing, results of tests with vegetables, orchard fertilization, weeds, etc. There is much in this bulletin of value to any farmer. It is free upon request to the above Station, State College, Pa.

Celery Storage Experiments.—Bulletin No. 579, issued by the Department of Agriculture, Washington, D. C. Free upon request. This bulletin gives the results of five years' experiments in storing celery and a summary of the conclusions.

As is well known, the old method of storing celery is not satisfactory because temperature and moisture conditions cannot be controlled. Storage in cold storage houses is new and very little definite information is available as yet. It was found that celery stored in large crates decayed worse in the center than when small crates were used. The 14-inch crate gave the best results. In the market test last season, the celery held in small crates sold for a much higher price than that in large crates kept in exactly the same way. Celery in the top tiers of crates showed a much larger proportion of decay than that in the lower tiers. The air temperature in the upper tiers averaged two and one-half degrees higher than the lower. It is found to be important to keep a uniform temperature, and as low at the ceiling as at the floor if possible.

Asparagus Beetles and Their Control.—Bulletin No. 837, published by the Department of Agriculture, Washington, D. C. The bulletin gives full description and life history of the common asparagus beetle and also the twelve-spotted beetle, together with remedies and methods of control. The methods of fighting the two kinds are, in general, the same. These consist of hand picking, good cultural practices, brushing off in hot weather, dusting with arsenicals (4 pounds of arsenate of lead in a barrel of air slaked lime) and spraying with paris green or other arsenical.

Cost of Distributing Milk.—Bulletin No. 173, of the Massachusetts Experiment Station, reports on an investigation on the cost of distributing milk in six cities and towns in that state. The results of the investigation showed that the cost of distributing retail milk by more than 80 distributors, some of them producers, some of them dealers, was 2.64 cents per quart in 1914 and 1915. The costs are fully analyzed with detailed information given on modern methods of handling. The bulletin is mailed from the above Station, Amherst, Mass.

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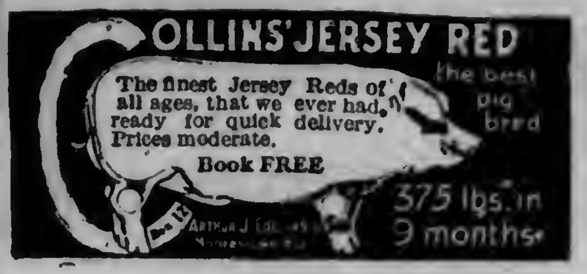

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Veterinary

Conducted by W. C. Fair, V. S.

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Urticaria.—I have a litter of small pigs about seven weeks old. They do not seem to grow as they should. There is something on their skin like a black crust. They are very itchy, rub themselves against the walls and board, in fact against anything that is convenient. They have rubbed themselves so much that the bristles came out and the hide is inflammed. The whole litter is very thin, the ribs of some of them can be easily counted. I have tried many remedies but they do not help. If you can suggest treatment that will cure them, I shall consider it a great favor. H. M. T., Biglerville, Pa.—First of all your pigs should be thoroly cleaned. Their pen should be cleaned and disinfected, and apply one part oxide of zinc and nine parts vaseline, three times a week. You should give them enough Epsom salts in their swill or milk to open bowels, also follow up this treatment by giving them some cooking soda in their feed, twice a day.

Pigs Cough.—My swine have developed a spasmodic hacking cough which seems to disappear, then return. Have tried the tar remedies without result. J. M. M., New York.—It is possible that your hogs suffer from tuberculosis, the throat glands being affected. Apply one part turpentine, one part aqua ammonia and two parts olive oil to throat when the hogs cough. Their feed should be dampened, their pen kept clean and well supplied with dry bedding. The hogs should be sheltered during rain storms, especially if the weather is changing from hot to cold.

Everted Rectum.—I have a sow pig, eight weeks old, whose bowel protrudes. When first noticed, some four days ago, we put it back in place, but it fails to remain. This pig acts nervous but has a fairly good appetite. What treatment do you recommend? S. C. J., Wyalusing, Pa.—Protrusion of the bowel usually follows costiveness and weakness, therefore, about all you can do to bring about a recovery is to keep the pig on milk or semi-solid food, which has a laxative tendency. Dissolve two ounces of acetate of lead and four ounces of tannic acid in a gallon of cold water and wet protruding bowel, three times a day. It is well to keep in mind that an ailment of this kind is very often incurable, on account of its being impossible to keep the bowel in its normal position.

Roarer. — I have a six-year-old driving horse which, when speeded, is inclined to whistle. As soon as I slow up this loud breathing seems to cease. So far as I can tell this horse is perfectly well and has had only one sick spell in his life. That was a severe attack of distemper last spring. Since then he has made the noise I mention. Is he curable? M. K. E., Haverford, Pa.—If you will drive him with independent bit and over-check, reining him up fairly high, he will perhaps breathe free and make very little noise. If this adjustment of the harness does not overcome the difficulty, then call a competent veterinarian who has been a successful operator on roarers and ask him to treat your horse. It is well to understand that this operation is not always successful.

Actinimycosis.—We have a four-year-old Jersey cow that has a hard bunch on lower jaw which seems to be growing slowly. So far as I can tell this is the only thing that is wrong with her. A neighbor of mine who has had much experience with cattle said she had mild attack of lump jar. If so, can she be cured? N. H. T., Cory, Pa.—A mild case of lump jaw will very often yield to treatment. Clip off hair and apply one part red iodide of mercury and four parts lard, every ten days. Give her one dram potassium iodide at a dose in feed or drinking water, three times a day, until she is well.

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The Marketing of Farm Products

Why There are Bread Riots in time of High Wages and Steady Labor

By REX TUGWELL

The problem of the market for perishable products has come into prominence quite recently. The United States, for centuries the land of plenty, has at last come to the necessity for retrenchment all along the line. We are being urged to save our food, to conserve the resources of the land. War has brought us the burden of feeding the world. Starved armies will never make the world safe for democracy. A starved farmer soon begins to question the justice of the present distributive system. He sees high prices in city and low prices on farm—and he wonders.

There has been much talk of middlemen in the past few years, and they have been called many hard names; but no one has questioned the real service that is rendered by their organization. The point of attack has changed. They are no longer baited by an indignant public, but a sobered public is beginning to ask whether the service is in all cases a real one. And it is beginning to ask whether the wages of this service are not too high. Further than this, real constructive suggestions are being offered for the bettering of the present system by greater public controls; and failing this, the recognition of the marketing function as a public one.

To one who closely observes the trend of economic events, it seems that first the one of the alternatives will be adopted—and after a very long time, the other. This involves the recognition of the processes of the distribution of foods as affected with the public interest—to use the language of the courts—just as the railroads, the waterworks of our cities, and many other social functions are recognized as affected with the public interest.

Such a recommendation for the milk business has already been made in all seriousness by the Governors' Tri-State Milk Commission of Pennsylvania, Maryland and Delaware, a commission a majority of whom were active milk dealers engaged in distributing milk in large cities. To quote from their report: "Your Commission recommends that all milk distributors and milk distributing plants be hereafter regarded as quasi-public businesses and subject to governmental regulation the same as are other quasi-public concerns". Here the milk dealers are asking for public control. The railroads have passed thru an era of public control and many executives are now ready for actual public ownership and operation.

Common carriage has long been recognized as a matter affected by the public interest; it is new to speak of the distribution of food stuffs in those terms. But the great war with its millions of soldiers who must be fed and who do not produce and the tremendous rises in the cost of living flowing partly from overcrowded cities and the war, have suddenly brought a new realization that food is scarce, actually, and that people cannot live without it now any better than they ever could.

These facts come very near to creating a technical "public interest" not only in milk but also in corn and wheat and sugar and all the rest of the common articles of family diet. Mr. Hoover and his Administration are a recognition of it and probably we shall never permanently return to private business. It is too wasteful, there is too much lost motion and too much thought of profit. The emphasis is in the wrong place. Private business is created and maintained for profit; incidentally the public is served. Mr. Hoover, in effect, is insisting that first of all the middleman must serve the public cheaply, efficiently and well; his profit is his pay for that service. Service first; incidentally, profit.

A French Mother and Her War-Wrecked Home
Photo by Underwood and Underwood.

The Passing of Private Business

The public has had no check on middleman profit, nor could it have while private business was inviolate and unquestioned. But now we are far enough along so that here and there have arisen men and organizations who have rather a poor idea of the sacredness of any human institution except as it renders present service efficiently. There is a new feeling that if an institution, or a method of getting things done, is found to be in the least outgrown, it must go. And there has been for some time a feeling spread widely abroad that our middleman organization is fattening on those it assumes to serve. Justified or unjustified, it is there, and it seems to be the place of the newer social and market students to examine the facts, to create some objective tests and to try to discover:

1. Is the present food-distributing system excessively inefficient?

2. Does the middleman require excessive profits for his services?

3. What, in fact, is the angle of difference between producers' prices? Where is this price created and absorbed?

4. To suggest, on the basis of such objective tests as can be found, a method of food distribution more fair and more efficient.

The men who have felt the pinch of injustice in the present system have cast about for a better method. The most prominent and most promising of these are included in the various forms of distributive co-operation.

The Purposes of Co-operation

It must be admitted, however, that co-operation on the whole has not had a tremendous success. For years it has been tremendously exploited by the Government, Federal and State—most notably by the office of Markets and Rural Organization—by various farmers' organizations and by a great number of organizations of consumers.

Its advocates held that co-operation would: (1) Eliminate the middleman; at least reduce the need for him to a negligible minimum. (2) Introduce order into the at-present disorganized production scheme—(a) by creating a feeling of class-consciousness among producers and consumers as such, and (b) by standardizing the methods of producing foodstuffs at the point of greater efficiency. (3) Insure a just return to the producer and low levels of prices to the consumer.

(Continued on page 14.)

Drainage Systems for Eastern Farms--IV

Digging the Ditch and Laying the Tile.---By R. A. Andree, Penna. State College.

After having decided on the kind of system, the depth and frequency of laterals, and the size of tile, it is well to stake out the system, locating all mains, laterals, silt wells, outlets, etc., with wooden stakes about 18 inches long. The main, or mains, should be laid along the line of natural depression and should be run as nearly straight as possible, avoiding the irregularities of the natural depression. If the direction of the line must be changed, it should be done very gradually as shown in Fig. 19. It is desirable to have the laterals approach the main at a slight angle, and then curve gently into the main, turning in the direction of the natural flow of the water. This allows the water to strike the main obliquely and prevents sediment settling at this point.

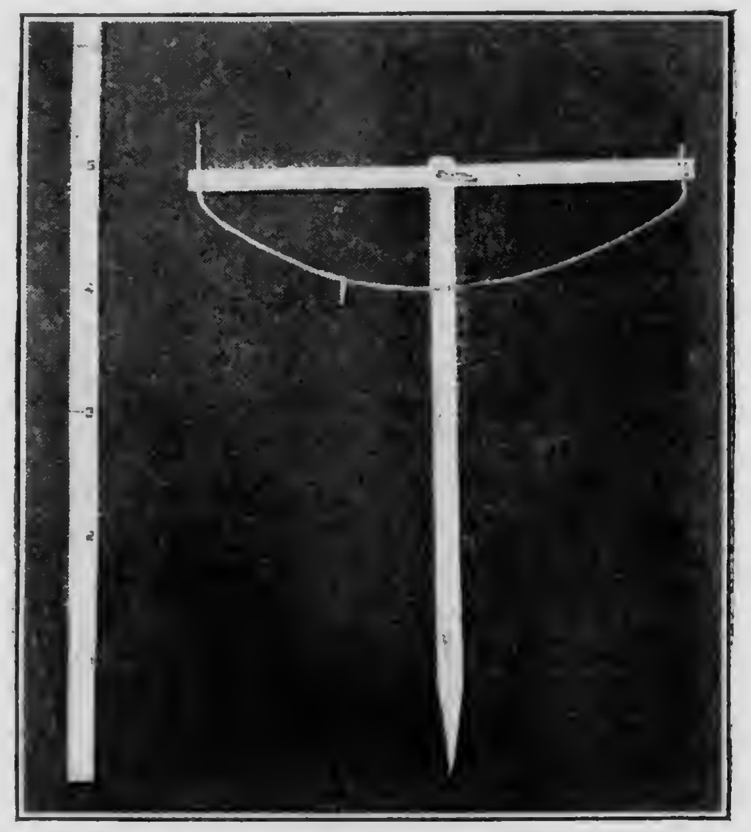


Fig. 20.—Home-made Level—Not Recommended For Accurate Work

Laterals must not enter the main directly opposite each other, but should be alternated. In cases where the slope cannot readily be detected by the eye, a carpenter's level or a home-made level, such as is shown in Fig. 20, can be used to advantage. If in doubt, do not hesitate to hire a surveyor. It will pay you in the end. Where there is very little fall an instrument will be necessary to test the fall of the tile after they have been laid and before they are covered. A description of the home-made level and its use will be given later.

Amount of Tile Needed

With a tape, measure the length of the various lines and determine the amount of tile needed. Order the tile at once and then wait for their delivery. Anything that will hasten the delivery of the tile or that will enable you to order them far in advance of the time they are needed should be resorted to. As soon as the tile arrive, lay them out along the various lines, about 10 to 15 feet from the proposed ditch.

Start the Ditch

Ditches may be opened successfully with an ordinary walking plow, but care must be exercised to keep the lines straight and the necessary curves very gradual. Gradual curves can be marked out by laying a rather heavy rope along the curve and shifting it until the desired effect is obtained. Many experienced ditchers prefer to dig the entire ditch without first opening it with a plow.

Construct Grade Lath

Before the ditch is continued it will be necessary to put in the grade lath as shown in Fig. 21-A and Fig. 21-B. The grade lath method of alignment simply consists of laying out a line with the desired slope above the ditch and then constructing the ditch with its bottom parallel to it. Proceed as follows: Near the outlet, drive one stake on each side of the ditch and allow them to stick out of the ground far enough so that their tops will be a little more than 6 feet above the proposed bottom of the ditch at that point. With a carpenter's level as a guide, nail on a cross bar so that its upper edge will be exactly 6 feet above the proposed ditch bottom.

The same thing will then have to be done at the head or upper end of the proposed ditch. Then grade stakes without their cross bars are to be driven every 50 feet along both sides of the ditch between the head and the outlet. The cross bars can then be nailed in line with the two already in place, by sighting. Stand about 10 feet behind the outlet crossbar so as to increase the accuracy of the sighting. The assistant should use a carpenter's level while nailing on the cross laths. Next stretch a heavy cord from bar to bar, keeping it directly over the center of the ditch. You will then be ready to dig the ditch by hand, using a 6-foot pole as a guide to keep the botton parallel with the corn.

Complete the Ditch

A tiling spade will be useful in digging the ditch from now on. Begin at the outlet and dig to within an inch or two of the required depth. Be careful not to dig deeper than is desired, since it may cause trouble to lay tile on filled-in ground. Keep the ditch narrow, not much more than a foot at the top and slope it slightly inward as you go deeper. As soon as you reach the point where the lateral is to enter the main, dig into the lateral ditch about a foot or two. Complete the main ditch, digging into the laterals as you go along. While this is being done, the tile can be brought up closer to the side of the ditch which is free from loose dirt. The ditch must be brought to the proper depth and carefully finished with a tiling scoop. Check up the ditch with the 6-foot grade stick and remove the grade lath.

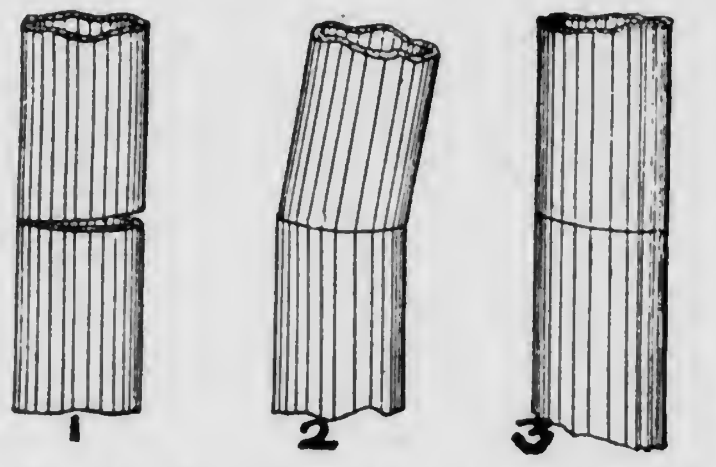


Fig. 23.—Matching Ends on Irregular Tile

Lay the Tile

With the use of a tile hook, begin at the outlet and lay the main up to the first lateral. At this point it will be necessary to put in a "Y" or a prepared tile to receive the lateral. Then lay about two lengths of the lateral and temporarily plug up its upper end with a flat stone or burlap. Do not neglect this unless you are willing to have trouble. Continue the main, starting all laterals as you go along. The man laying the tile should be followed by another who carefully fills in 4 to 6 inches of earth as soon as the tile are laid. This is done to prevent shifting later on. The upper end of the main must be permanently scaled by means of a flat stone or board.

Care must be exercised in laying tile so as not to allow any open joints. Poor tile should be discarded and those with crooked ends should be laid to match as shown in Fig. 23. Poor joints at the points where the laterals enter the main must be covered with bits of broken tile to prevent dirt from entering the main here. After the main has been completed and the ditch partly filled with earth, the filling can be completed by means of a home-made scraper. A concrete retaining wall for the outlet should be given attention next, even before the laterals are put in. The laterals can then be dug and laid beginning at the main, and using the grade lath method the same as before. Remove the temporary plug in the short lateral and lay the tile as before, being sure to permanently plug up the finished head of each lateral before filling the ditch.

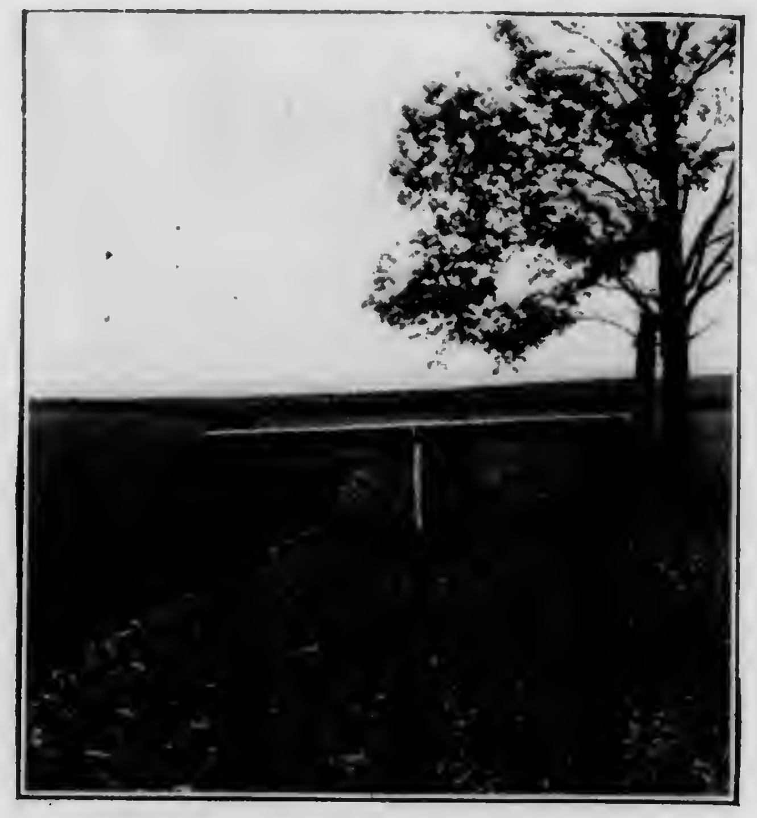


Fig. 21-A.—Setting Line of Grade Lath

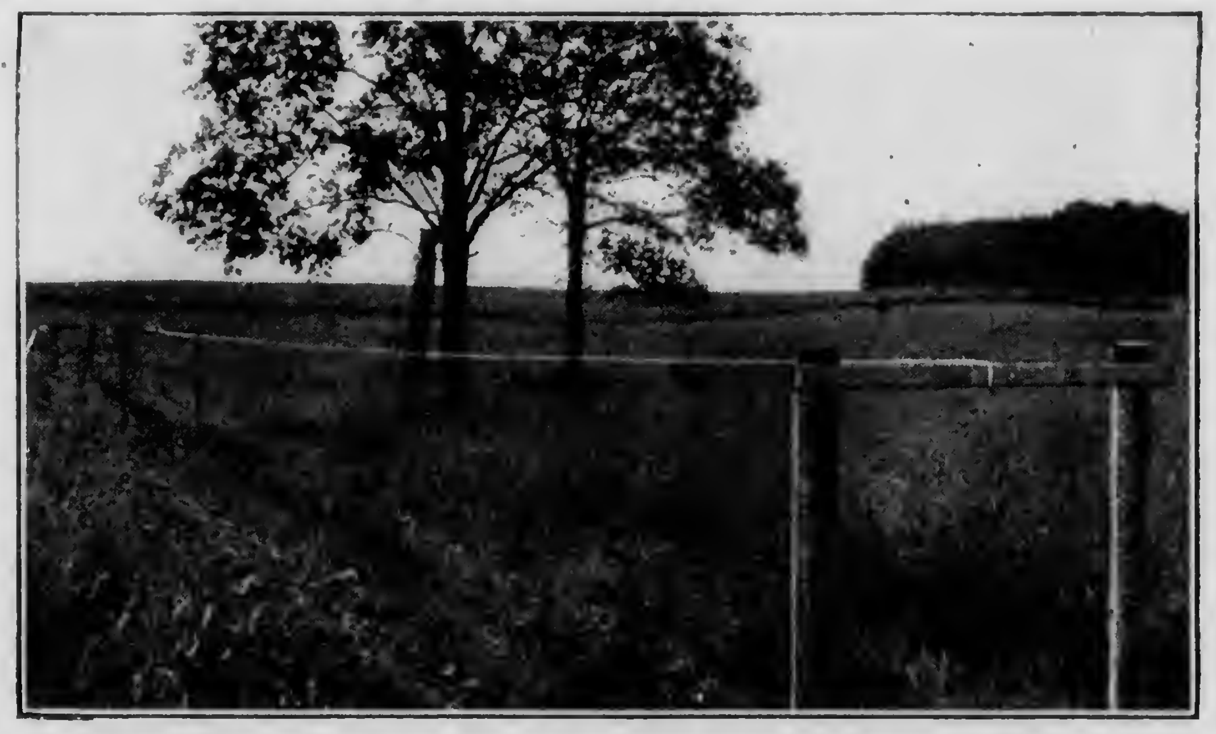


Fig. 21-B.—Line of Grade Lath Set. Bottom of Ditch Parallels the Stretched Line

Drainage Map

No drainage system is complete without a map showing the location, size, and depth of tile. This is necessary for future reference and adds so much to the value of the system in case the farm is sold.

(Note.—The fifth article in this series, discussing home-made level, requirements of tile, etc., will be published in an early issue.—The Editors.)

FERTILIZER RETURNS FOUR TIMES ITS COST

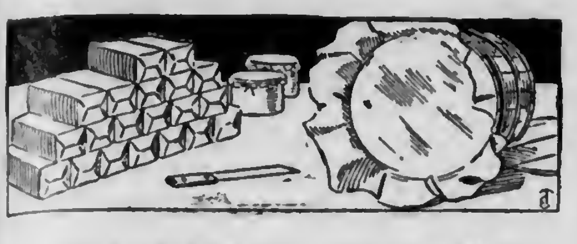
Barnyard manure is deficient in phosphorus and hence is not a balanced food for plants. Additions of this element return much more than their cost on soils of average fertility.

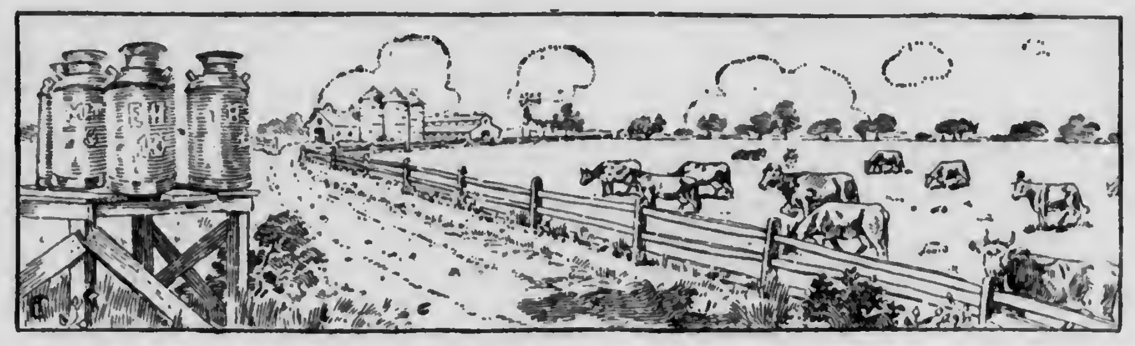
Eight tons of manure per acre applied to land at the Ohio Experiment Station at Wooster has produced a 20-year average yield worth $24 an acre. Acid phosphate costing 85 cents annually has increased the value of the yield to $28 when used in addition to the same quantity of manure. At present prices the cost of the acid phosphate would be $1.20, and the value of the increased produce $18 over that produced by manure alone.

Animals take out of their feed the phosphorus necessary to build their skeletons or that contained in their milk. Acid phosphate or raw phosphate rock is commonly used at the rate of 40 pounds to a ton.

Keeping the Best Labor on the Farm

Would Profit-Sharing Produce Bettter Results?---By Charles Warner





Even before the pressure of war, men in many enterprises have noticed the good results from profit-sharing and piece-work arrangements with their employes. Not all of the plans tried have been successful, but enough have been worked out successfully and practically to prove their definite merit in increasing output and profits. Moreover, the spirit of co-operation between employer and employe which should develop from a proper plan of extra compensation, or of increased profits or extra work, should be the American spirit—the spirit of fundamental importance in building permanently a successful and democratic form of government. It, therefore, becomes one of the forces of patriotism to try carefully to apply any co-operative relation between owners, managers and employes which may inspire greater effort and interest of employes and supply the extra profits to compensate in proportion to the increased results.

The owners of farm land, in making arrangements with tenants to manage and operate such farms, were probably among the class of business men who were the earliest to put this principle into practice, by farming on shares. In such cases the old standard of fifty-fifty generally prevails, the owner supplying part or all of the fertilizers, lime and seeds, the tenants supplying the stock, implements and labor, with an equal division of the crops or net profits.

If this early application of the principle of profit-sharing had not be recognized as a good one to stimulate the tenant to energetic work, it would have been abandoned long ago.

We are now facing a world-wide cry of labor shortage and inefficiency, coupled with the great demand for more output. Particularly acute has this condition become in the agricultural sections. Recent discussions with many farmers developed the fact that the owner-managers and tenant-managers are not paying the market price for labor and do not feel that they can afford to pay it. The net result is that many farmers' sons and some of the best of their young farm-hands, with ambition and a natural desire to earn more money, have gone to the higher-waged markets. This movement of many of the best youths from the farm to the industrial centers is fairly active most of the time, but has probably been more active the past two years than at any time in the history of our country.

We must not idly overlook that the decadence and final disintegration of many great nations in history have been traced to identical conditions. Any plan to stay this movement on practical lines must be tried patiently and applied permanently when proved out, if our government is to endure.

Ambition, efficiency and energy, where they may exist in latent form in the farm youths of America, cannot be developed into a potential force with a continuance of the prevailing practice of paying but nominal wages or, in the case of many sons, the mere allowance of pocket money. Yet, in normal times it is well recognized that the average American farmer cannot pay much, if any, more for the services he is getting from his labor. Returns have not permitted higher wages.

The real solution of the problem can lie only in the direction of such reasonable profit-sharing with the sons, or the best regular farm-hands, as will encourage such men to a greater interest in studying and working for intensive cultivation, with the goal of much larger profits per acre. In the light of experiences both in America and abroad no one questions that intensive cultivation would increase largely the output and net profits per acre on most farms, but with ample acreage at command, we have been content in most cases with tilling large acreage less thoroly, rather than small acreage intensively.

A progressive industrial manager cannot afford to let his plant run at 60 to 70 percent capacity with a limited force of mildly interested labor, if he can possibly feed in the additional raw materials and also stimulate his labor to greater interest by piece-work or profit-sharing and thus bring the plant to full capacity. Is not the business of agriculture in the same position as the industrial plant in this regard?

Does not this indicate that the real need on the farm is the development of a plan for profit-sharing among the farmers' sons and their good farm labor, and to couple with such plans the proper encouragement of the younger generation of farm workers to study, investigate and develop the best methods of intensive farming? Is it not reasonable to suppose that a plan of dividing profits on some basis will help to interest the young agriculturists to a more interested study of intensive farming, with the probable result that the managing owner or managing tenant will make more net profit with less worry and effort, and that the regular farm-hands or farmers' sons, as the case may be, will earn a large increase over ordinary farm wage and also that the intensified farming resulting out of this greater interest will produce the larger crops needed for world-wide consumption?

If profit-sharing has been found good between the farm owner and managing tenant, why is it not good where it can be so easily applied as between manager and the best regular farm-hands? If these farm-hands see the chance of a much larger return, will not a larger number of them, with their youthful ambition, turn with keener interest to intensive farming and a study of all the questions that bring about these results of larger crops and greater net profits per acre?

These questions are very pertinent in this critical time of our world's history and they are presented frankly to our great body of rural business men, for their serious thought.

It is a concern expressed from many quarters by those interested in it, not alone now but for years past, that the young agriculturists in large numbers seek the city conditions. This arises unquestionably in part from the natural ambition to earn more money. The deadening effect, upon the younger men, of the present farm system and the method of paying for service, seems self-evident. The principle of developing profit-sharing was considered good in peace times in many industries where conditions permitted of the adoption of proper plans. It cannot help but be of greater value in war times, to aid in securing the high pressure efforts needed in all occupations.

Is not a great responsibility placed on the American farmer to apply these principles? The present conditions certainly point the way to the need of some change in the prevailing practice.

MORE ON LESS ACRES

Intensive farming does not necessarily mean growing special crops and garden truck. In ordinary farming it means doubling your crop on the same acreage or cutting your farm in two, and growing as much as you did before. Too often a farmer is measured by the number of acres he operates while his actual farming ability is shown by the quantity and quality of farm products he produces per acre. With the right kind of management, it is possible in many localities to make 80 acres produce more crops and more profit than the average quarter section.

PREPARE FOR THE ICE CROP

A good supply of ice is a great help in the dairy business during warm weather and is well worth the cost of putting up on every farm. If there is not already an ice house on the place and you intend to build one, it should be remembered that a shady location with a northern exposure has a decided advantage. Ice at best is a highly perishable product and every possible advantage should be taken for its preservation.

To keep well, ice must have a minimum of surface exposed to the air or to the packing material. This is most easily accomplished by piling the ice in the form of a cube. The keeping of good ice depends upon how well it is insulated, whereby it is protected from heat and air. Drainage, too, is important, because the lack of it interferes with the insulation. The ice itself must be packed so as to prevent as completely as possible the circulation of air thru the moss. Hence, the keeping of ice depends upon the shape of the moss, its insulation, drainage and solidity.

An ice house giving good satisfaction on the farm may be constructed at a moderate cost as follows: In the first place, a site should be selected that is well sheltered and handy to the place when the bulk of ice will be used during the season. If the ground is not well drained, the surface should be graded so that no surface water can flow into or thru the building, and so that the water from the melted ice will quickly run off. In some instances it may be necessary to lay tile drains fifteen to eighteen inches below the surface to carry off the water. Next, set squared sired; that is, a building fourteen feet square of the dimension desired. The hight of the poles should be the same as the length of the sides of the square, if the greatest economy of space and the best keeping conditions for the ice are desired; that is, a building fourteen feet square should be fourteen feet high. A house this size will provide storage for a cube of ice 11x11x11 feet, which, without allowance for voids, is equivalent to about thirty-eight tons.

To complete the ice house, cut the posts to a uniform hight and nail a double 2x4- or 2x6-inch plate on top of them. The sides may be inclosed by boarding both outside and inside with rough lumber. The space between the two board walls may or may not be filled with shavings or saw dust, but whatever packing is used should be perfectly dry. The roof may be an even span one-third pitch.—C.

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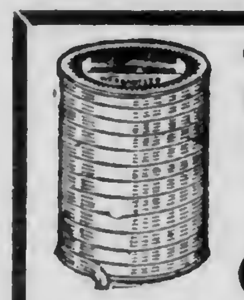

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Lessons From the Season

Successful Methods of Picking and Storing Fruit

BY DR. J. P. STEWART, State College, Pa.

It often pays to look back over a season of active effort and jot down the more important ideas that have come into mind during its course. To furnish a start along this line, I am suggesting a few points worthy of note which have come to my attention during the apple picking season just past.

In the first place, over most of Pennsylvania the past season has been characterized by unusual shortage in labor, crops medium to light in most sections, and prices in the orchard relatively high. Since the labor shortage is likely to become worse before it gets better, some of the methods of coping with it should be of interest.

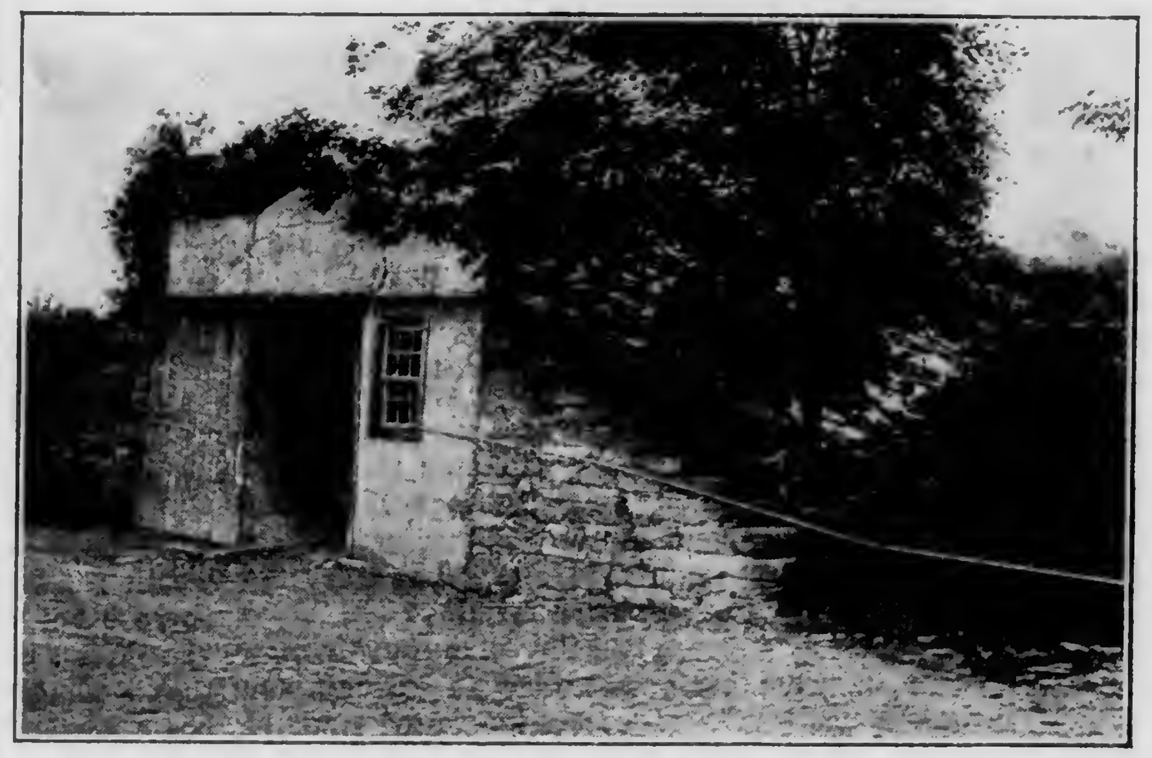

Fig. 1.—A Concrete Storage Vault Owned by W. J. Lewis, of Pittston, Pa. It is 10x16x80 feet, cost $1,100, Holds 6,000 Barrels. Has Paid For Itself Every Year Since 1910, When It Was Built

In general, the best way to meet labor shortage is to increase the efficiency of the labor available. This is usually best done by giving the laborers some direct interest in the output. **In the case of apple picking** in particular, this can often be accomplished by changing the basis of payment, i.e., by paying the pickers by the bushel instead of simply by the time, but anyone who has undertaken to keep a gang of pickers really busy for any considerable period on this basis knows that he has a real job on his hands, as laziness and shirking are apparently at a premium in it. On the bushel basis, however, each man is paid for just what he does, and it usually does not take long to revolutionize the habits of a picking gang when the change is made to this basis. In one Pennsylvania orchard during the season just past, this change resulted in the picking of more fruit a day by 20 men than had been done before by 35, working on the time basis. The condition of the fruit moreover was fully as good as before.

This system is best operated by giving each picker a number and a bunch of cards bearing this number. One of these cards is placed in the bottom of each crate of fruit picked. The cards are then collected at the packing house, each man is given his proper credit, and if any important bruising or other carelessness is evident in any of the fruit, the picker bearing that number is notified on the next trip to the orchard.

The use of mechanical graders is another good way of improving the character of the output, and it also reduces the labor item to some extent. There are several good kinds on the market now, at fairly reasonable rates. Those of large capacity are preferable, where the other features are substantially equal.

The availability of a storage house in connection with an orchard or at least of a storage option has again proved its value, even in the present era of high prices. It is not uncommon for this feature to increase the price offered in the orchard by from 30 to 50 percent. One good grower in Pennsylvania has two storage houses, one of them costing about $800 and the other about $1100. They hold about 4000 and 6000 barrels, respectively, and will keep the fruit until April. The first one built increased the price offered in the orchard from 80 cents to $1.25 per bushel the first year, and he considers that it has paid for itself every year since it was started, which was seven years ago. These houses are built on the cold-air ventilation system and they have been a complete success on all good keeping varieties. They are owned by W. J. Lewis and brother of Pittston, and are shown in the accompanying photographs, taken by the writer.

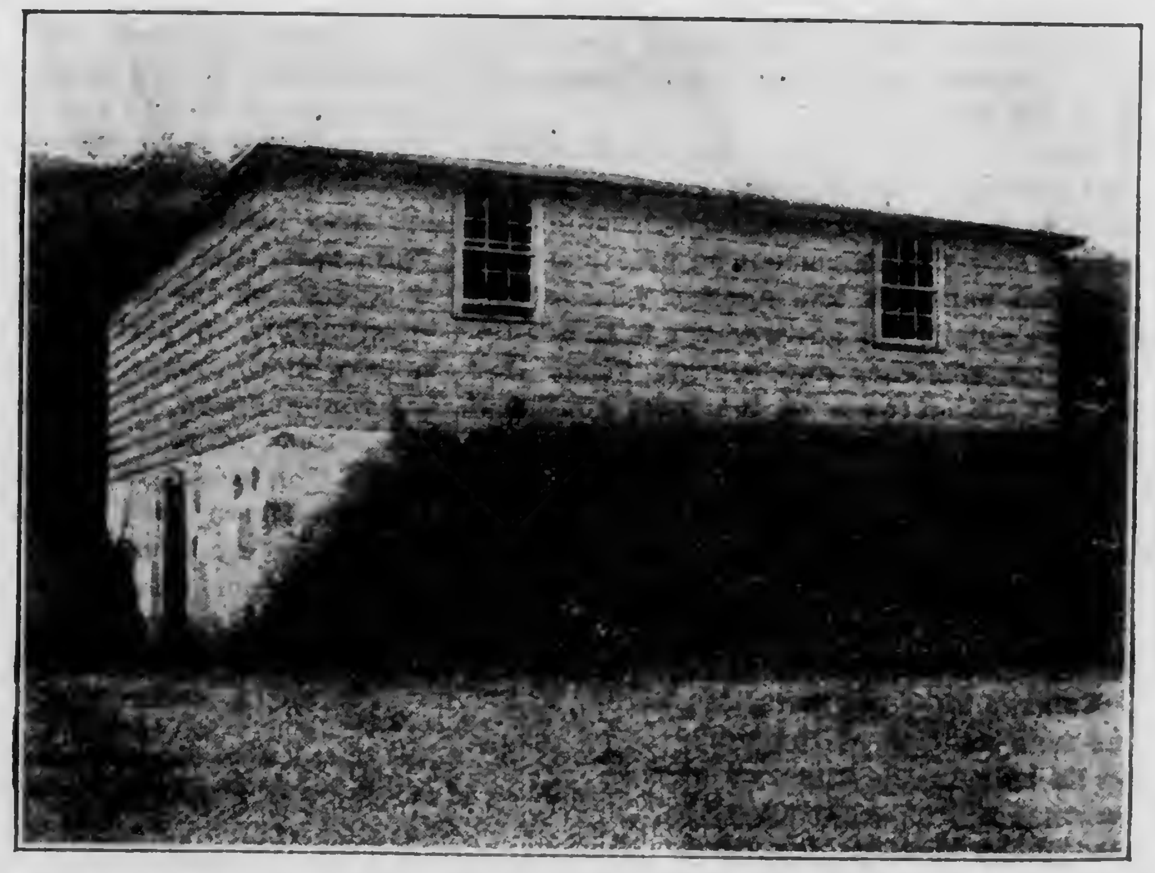

Fig. 2.—Another Storage House on Lewis Farm. It is 30x30x8 feet, 10 inches, on Both Floors, Holds Approximately 4,000 Barrels, Cost $800. Not so Efficient as the One in Figure 1.

This brings up the question as to whether one should store or sell in such a season as this when the buyers are bidding so high in the fall. This will naturally depend on the character and quality of the market available later in the year. But in general, the average grower is likely to fare better to sell in the fall when the prices are high then, and prepare to store whenever the other conditions rule. Last year was a good year for the storage men, which at least partly accounts for the extra high prices they are offering this year. It also indicates the strong possibility of the present year being a poor one for storage, which will naturally result in low offers a year from now. The growers should prepare themselves to act accordingly.

One other suggestion that may be in order at this time is that growers place their orders for fertilizers early. This is especially important in the case of nitrate of soda, which can usually be bought to best advantage along in December. In the present year it is certainly advisable to get the order in for it not later than the close of December. The size of the crop for next year can often be materially increased by an application of 3 to 5 pounds of nitrate of soda to the bearing tree, made ahead of the bloom, and preferably shortly after the buds start into growth. Those growers who have a supply of nitrate on hand should be in a position to profit by this fact.

HON. W. T. CREASY'S FARM AND FARMING

The following "write-up" of the farming and fruit growing operations of Hon. W. T. Creasy & Son, which recently appeared in a local paper, we believe will be of general interest. Mr. Creasy is nothing if not original and the description of his unique fruit storage house is worth studying.

"The term 'veritable hive of industry' is no longer monopolized by the industrial and manufacturing centers, many farmers of the country, thru modern methods, machinery and appliances, having won the right to be included within the sweep of that term. One of the agricultural plots, a good-sized plot, too—200 acres—that has won 'a place in the sun' is the 'Fairview Stock and Fruit Farm,' Catawissa township. (Columbia Co., Pa.) of which Hon. Wm. T. Creasy & Son are the guiding stars.

"That it is a 'hive of industry' will be demonstrated to the satisfaction of any doubter by a visit, and it will take but a short time to demonstrate the fact. Just now they are in the midst of the fall harvest—apples, grapes, potatoes, corn, buckwheat and peaches, tho the latter crop is in the last stages.

"They had no trouble marketing the fine peaches, shipping but one carload of 800 baskets to Hazelton and taking several truckloads to the Benton section, where they were disposed of at a profitable figure in a couple of hours. The remainder of the crop was sold on the premises to hucksters, who marketed in the coal regions.

"The apple crop will be a big one, particularly the Baldwins. The approach to the farm buildings is along 'Apple street', both sides of the road being lined with heavily-laden apple trees; besides, there are two or three large orchards and many scattered trees. One sale has been 1,000 bushels on the trees, the purchaser picking and hauling them away.

"Of course every one has a hobby, every one is entitled to at least one; but how Mr. Creasy and his son find time to devote to hobbies is a mystery. However, one cannot help noticing a different touch when 'Trent', as the head of the firm is familiarly known, gets over into the front yard among his magnolia trees, dwarf apples and roses. There are 21 different varieties of magnolias, all choice trees, and in the spring and summer the yard must be a beauty spot.

"The dwarf apple trees are the 'Bismark' and 'McIntosh' varieties. The trunks of the trees are about 2 inches in diameter, bearing about a bushel of large (3 inches and upwards in diameter), beautifully colored fruit, the uppermost apple not being over five feet from the ground.

"We only discovered one hobby of 'Bills', the junior member of the firm, in the short time we were there, and that was his Holstein cattle. He can well be proud of them, for they are as fine specimens of the breed as one could wish to see. The Fairview Stock and Fruit Farm has already won a place on the map thru their sales of thorobred live stock every two years.

"All the other livestock and equipment—hogs, horses, water works, tool shop, machinery, dairy, etc., to say nothing of the fruit farm and home buildings—they seem to take as a matter of course.

"They are great experimenters; picking the best they can from books and observation and then improving on it. They have just completed one experimental outfit—an apple storage building. To the layman it looks good, and Mr. Creasy and his son expect great results from it.

"It is a two-story, shed-roof building, built along side a wagon shed. Its dimensions are 18x24 feet inside. They experimented with a cave for storing apples, but the rats and mice got in and destroyed much of their crop. If any vermin get into the new building they will have to work their way in with diamond drills or cold chisels.

"The foundation walls are 12 inches of concrete and extend a foot above the ground. The frame is of 8-inch stuff. On the outside of the studding is nailed two thicknesses of waterproof building paper, then two thicknesses of plowed and grooved flooring with double thickness of waterproof building paper between them (this extends up only the first story, the upper story is merely a storage room for barrels and crates). First on the inside of the studding comes a thickness of plowed and grooved flooring, leaving a space of eight inches which is tamped with cinder as the inside lining is laid up; then two thicknesses of waterproof building paper and a final lining of wall-board.

"For the ceiling, on top of the 8-inch joist is a layer of plowed and grooved flooring, forming the floor of the upper storage room; on the lower side of the joist is another thickness of the flooring, the eight-inch space between being packed with straw. The apple storage room is ceiled with wallboard. The large double swinging doors at either end are refrigerator doors, six inches thick, made of ten thicknesses of waterproof building paper and five thicknesses of wall-board between plowed and grooved flooring. The storage room has a 7-foot ceiling.

"The ventilation is taken care of by four intakes in the side walls 10x12 inches, a foot above the base, extending thru the walls, and two outlets thru the ceiling, 10x12, extending out thru the roof. To make it vermin proof, sheet-iron angle sheeting is laid along the sides at the top of the ceiling.

"It is a sightly building, will accommodate 1,000 barrels of apples and they are confident they have solved the problem of apple storage on the farm. 'If it isn't a success,' remarked the senior member of the firm, 'it will make a mighty fine wagonshed.' But it looks good and it will pay any farmer who has use for such a building to go up and look it over. You will be made welcome."

Timely Fruit Notes

By Dr. J. P. STEWART

Varieties for Home Use and Local Market in Eastern Pennsylvania

"I have a 10-acre field on my farm, on the northwest side of a hill of about 20 to 30 percent slope, which I expect to put in fruit. The soil is gravelly ironstone loam of 'Chester' soil. Will apples and peaches thrive there? There is a 2-acre orchard on a level field at the foot of the hill, which is as fine as any, altho it has never been cultivated or had any attention, so far as I know.

"Why is it that every practical fruit grower, with whom I've talked in this section, recommends spring planting and all the authorities in farm papers recommend fall planting?"—C. R. McG., Berks Co., Pa.

From your description I would expect the 10-acre field to be suitable for both apples and peaches. I assume that the orchard would be used to supply the Reading market and that it is within hauling distance. In such a case, I would use varieties which would cover the entire season if possible. To do that you should begin with a few of the earlier sorts, such as yellow Transparent, Oldenburg, Summer Rambo, and Maiden Blush; and follow these with Wealthy, McIntosh, Smokehouse, Grimes, topworked on Tolman, Rome Beauty, Stayman Winesap, and Stark.

In the case of the peaches, I would suggest the Mayflower, St. John, Lola, Belle, Elberta, Frances, Fox and Stevens, as most suitable, and they ripen approximately in the order named.

There should not be much difference in success or efficiency between fall and spring planting in your locality. Either should be satisfactory if done properly and the planting is completed early enough.

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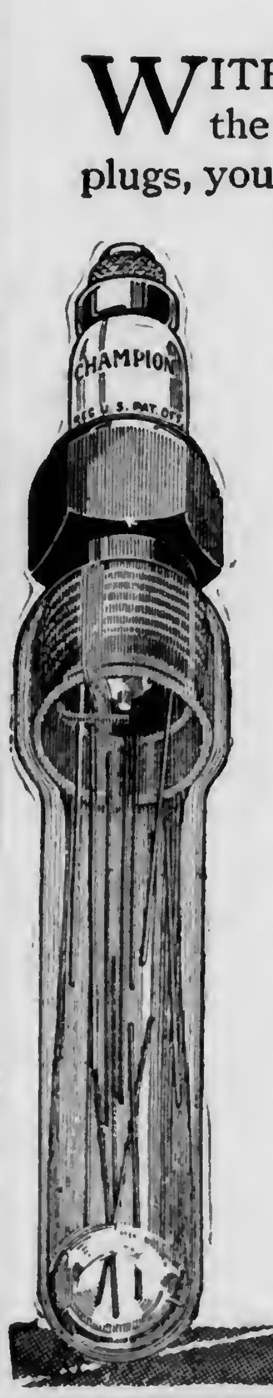

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PHILADELPHIA, PA., DECEMBER 1, 1917.

Marketing Produce

The article on first page of this issue is the first of a series reporting on an investigation of the five leading produce markets in this state. There has been much theorizing on market problems and remedies in the past few years. This series of articles will not theorize. It will merely tell in simple language, but in most interesting style, what the investigator found. It will give reports on a considerable number of shipments of produce that were traced from the farms, thru the wholesale and retail markets to the final consumer. The processes and price changes found in these transactions account in large measure for the high costs to consumer and low prices to producers; account for bread riots in time of steady labor and high wages. The results of this investigation may point the way to some new legislation. They may indicate the need of market reforms affecting practically all of our present market agencies. But most of all, we hope that our readers will draw from them a better understanding of how the larger produce markets are now conducted, and how to secure best results from them as they are. Legislative reforms are slow and uncertain. The progressive farmer will find ways to help himself.

Supplementing and continuing this investigation, we will continue to issue reports of prices received by producers and paid by consumers in the markets named.

* * *

A Nation of Bond Holders

The second Liberty Loan was taken by 9,400,000 people. Surely this is proof of the people's faith in their government. The loan was over-subscribed by more than one-half billion dollars. Only half of this excess amount will be accepted. This will make the second loan amount to about $3,800,000,000. The purpose of the Government is to accept all the smaller subscriptions—those from $50 to $50,000—and refuse enough larger amounts to bring the over-subscription down to the desired amount. It is much more desirable to have the common people hold these bonds than for them to be held by a comparatively small number of moneyed people. It increases the public interest in the government and tends to prevent the formation of classes and class prejudices.

* * *

Y. W. C. A.

It was demonstrated last week that the value of the Y. M. C. A. in army work is pretty well understood and appreciated. The generous response to the call for $35,000,000 which rolled up a total of over $50,000,000 speaks for itself. But little attention has yet been given to the work of the sister organization—the Y. W. C. A. This latter organization leaves the sterner work to the worthy "Y", but it is making itself so useful that it has been called upon to take charge of important duties connected with the army cantonments. It enlists girls and women for worthy women's work. It sets standards of service and character for its members that are as important to the welfare of the country as the morale of the army. It cheers the men in the ranks and trenches to know that "the girls back home" are doing their share; and it helps the girls to feel that they have a part in the great struggle for which their brothers and sweethearts are offering their lives. The work and aims of the Y. W. C. A. are worthy of the enthusiastic membership of every girl, and worthy of the support of all.

* * *

Milk Price Arbitration

The latest plan of the U. S. Food Administration calls for the determination of milk prices in all important markets by "regional milk tribunals, federally appointed". It is explained that every milk price controversy involves the interests of producers, dealers and consumers. Further, that costs of producing and distributing vary in different cities. Therefore it has been decided that the best way to reach agreements with justice to all is to put the matter of price changes in the hands of local federal commissions on which "producers, distributors, consumers, milk experts and the public at large" will be represented. In other words, milk prices for each large city will be set by a local commission representing the interests named.

The announcement of this plan evidently means the failure of the plan to determine a satisfactory standard of the cost of production upon which a profit of 10 percent was to be permitted. It seems to mean that milk is a commodity to be handled differently from any other staple article. It would be as reasonable to arbitrate the price of coal, wheat, meat, bread or any of the other articles of every-day use. The local commission plans look like an effort to avoid responsibility on a troublesome question.

The practice of arbitration has proved better in theory than in practice in many cases, and it is likely to prove so again in this case. Justice and expediency give way to the preponderance of interests represented on the arbitration board or commission. What may be found to be a fair cost of production or distribution in one city market will have no bearing in another. The price will depend upon the relative influence of the members of the commission. And even more damaging, the future of the milk market will be in constant danger of revision and readjustment. What the dairymen need right now is some assurance of what treatment they are to receive in the market next spring and summer. They want to know whether it is going to pay to hold their herds over thru the winter when feed and maintenance prices are highest. There was doubt enough with the old unstable condition of the market. There will be still greater doubt with the proposed system of arbitration.

* * *

Farm Labor

The farm labor situation has gone beyond the discussing and resoluting stage. It is time to act. Every farmer knows that unless something is done, farm production must suffer next year. He knows that he cannot pay the wages offered by other lines of industry, by the state and nation in public work, and he knows that without more labor he must reduce his acreage and reduce the effort necessary for maximum production next year. It will not do to wait until seeding time comes before taking definite action. The farmers must know this winter what they can plan and prepare to do next summer. Several expedients are suggested. Some one or more must be adopted soon and acted upon, not by communities alone, but by government policy. On another page of this issue appears a strong appeal from Secretary Alva Agee, of the New Jersey Department of Agriculture, asking farmers to write their representatives in Congress to pass laws suspending non-essential industries and liberating men for productive labor. This appeal should meet with ready response from farmers. There are many industries that serve the wants of the people in time of peace but which contribute practically nothing to the actual needs of the people or the nation in time of war. If it is unpatriotic to waste food and material, it is more unpatriotic to waste labor in the production and serving of things not needed. Men engaged in such industries number into the millions. They should be put into needed, productive labor.

But even if such labor is made available where needed and where it can give best service, some system of returning to the farm the skilled farm labor must be devised. Candy makers, pool room attendants, dry-goods clerks, etc., can give good service under the direction of factory and shop managers, but they would be of little value on the farm. If this class of men be turned to productive labor, there must be an accompanying movement to return the men thus replaced to the farms. This means conscription of labor, or the parolling of labor to certain lines of work for the duration of the war. But these are details to be worked out by Congress. The important thing now is for the farmers to make known their needs. There is no better way than the one suggested by Prof. Agee.

* * *

Simplified Spelling

The English language has, in recent generations at least, undergone a constant and rather rapid change both in orthography and commonly used construction. This change has been uniformly toward simplification, with the possible exception of the introduction of some foreign words into the English vocabulary.

In recent years an attempt has been made to introduce the simplified spelling of a considerable number of English words by dropping silent and useless letters. While this attempt, with which every Pennsylvania Farmer reader is more or less familiar, has apparently not met with the universal popular approval which its champions believe it to merit, there are many excellent arguments in favor of this system of so-called phonetic or simplified spelling. Among these arguments is the fact that by the shortening of these words as proposed, by an average of two letters each, more than fifteen percent of the time and space required in their use would be economized. The objections and criticisms of educated foreigners concerning our language would also be obviated, and the chance of the ultimate adoption of English as a world language in the coming struggle for a medium of universal expression would be increased.

Many college professors and leading librarians have endorsed the following list of words which we are publishing herewith, and many publications are using the simplified form of spelling of all or a portion of these words. We would be pleased to have an expression from as many of our readers as are interested regarding their attitude toward simplified spelling, so far as it may apply to the education of their children and the literature coming into their homes. The following list is appended for such consideration:

Accurst for Accursed
Affixt for Affixed
Altho for Although
Blest for Blessed
Bot for Bought
Carest for Caressed
Chapt for Chapped
Clapt for Clapped
Claspt for Clasped
Comprest for Compressed
Confest for Confessed
Cropt for Cropped
Crost for Crossed
Crusht for Crushed
Curst for Cursed
Dasht for Dashed
Deprest for Depressed
Dipt for Dipped
Discust for Discussed
Distrest for Distressed
Draft for Draught
Drest for Dressed
Dript for Dripped
Droopt for Drooped
Dropt for Dropped
Exprest for Expressed
Fixt for Fixed
Gript for Gripped
Husht for Hushed
Kist for Kissed
Lapt for Lapped
Leapt for Leaped
Lookt for Looked
Mist for Missed
Mixt for Mixed
Nipt for Nipped
Opprest for Oppressed
Past for Passed
Posest for Possessed
Prefixt for Prefixed
Prest for Pressed
Profest for Professed
Propt for Propped
Rapt for Rapped
Ript for Ripped
Slipt for Slipped
Skipt for Skipped
Snapt for Snapped
Stept for Stepped
Stopt for Stopped
Stript for Stripped
Suprest for Suppressed
Tapt for Tapped
Tho for Though
Thoro for Thorough
Thorofare for Thoroughfare
Thoroly for Thoroughly
Thot for Thought
Thru for Through
Thruout for Throughout
Tipt for Tipped
Topt for Topped
Trapt for Trapped
Trof for Trough
Vext for Vexed
Wrapt for Wrapped

HARRISBURG NOTES

Realty Valuations. — Considerable attention has been attracted at the State Capitol by the manner in which the question of equitable valuations of real estate for taxation purposes, for which the State Grange and kindred organizations have been contending for years, has been brought to the front again by Highway Commisioner J. Denny O'Neil. Mr. O'Neil, who has been spending considerable time travelling about the state discussing road improvements on a "fifty-fifty" basis with county commissioners, and urging boroughs to co-operate with the state in bettering streets which are in reality parts of state highways, is suspected of being a candidate for governor. The point he makes is that if assessments were properly worked out there would be more money for counties to expend on their roads and also to work with the state in its plans for getting better highways in the rural districts. The lack of system in making assessment valuations in cities and boroughs is notorious and attention has been called to it for years, while what happens to the man in the country who owns a farm has been talked of for decades. As the present system can only be changed by legislative enactment it will be interesting to observe what comes out of this latest revival of the problem which has been agitating the farmers of Pennsylvania for about 100 years.

Labor Shifting Plan.—The series of conferences held in Harrisburg the last week indicate that the time is coming when unskilled labor will have to be moved about the state of Pennsylvania as needs arise. It seems to be pretty well established that the second draft, which will come in the winter, will take heavy toll from the ranks of the unskilled laborers and the men not needed in specialized lines such as manufacture of munitions, railroading, farming and the like. The plan will be to do as in England where production is at the same rate as before the war in many lines, notwithstanding the absence of hundreds of thousands of men on military duty or in the various duties which require attention to keep the fighting forces fit. To do this it is apparent that men connected with the state government and the committee of safety are working to move laborers where needed.

Community Tractors. — Secretary of Agriculture Patton has made the suggestion that farm tractors be bought by boards of trade or other local organizations and worked on a community plan, or in other words that the same system used in threshing machines be employed in operation of farm tractors. He says that tractors could be bought by a group of men or by a single man and a schedule arranged during the winter, each farmer paying his share or receiving a share of its service in return for his part in the purchase of maintenance as the case may be.

The State's Printing.—The proceedings of the spring meeting of the State Board of Agriculture and the farmers' normal institute held at DuBois last May have made a good record as far as being printed is concerned and appeared today in pamphlet form. Similarly the 1916 report on feeding stuffs has shown up. State reports due from a number of departments, including agriculture, will have to hustle to beat 1918. The 1917 Smull's handbook, which is a directory of the state government, is still in the hands of the printer, while the 1917 laws are just coming out. Bulletins of departments are from three to four months behind the season. Whether some of the junk which clutters the mail and clogs the bins on Capitol Hill will be reduced or not at a time when paper, ink and materials have gone away up in price is a matter of conjecture.

Millions for maintenance.—Highway Commissioner O'Neil predicts that the revenue from automobile licenses for 1918 will reach the unprecedented total of $3,500,000. As there is a chance that gasoline use may be materially cut down by government regulation next year and cars are not coming from the factories as rapidly as heretofore the commissioner's estimate may be a trifle too glittering. However, the prospects are that there will be millions for maintenance of state highways next year and while the work will depend upon war conditions there should be small excuse for bad spots. Part of the 1917 revenue, which breaks records, is to be used for building what are termed "war emergency roads" in some sections of the state and in maintaining those main highways over which trucks are being sent to the seaboard to relieve railroad traffic.

NEW JERSEY FARM NOTES

Farm and Labor Conditions.—Of the ninety odd thousand carloads of potatoes which have been sold off the farms of the country this year, New Jersey has contributed eleven thousand. In New York City on August 21, 75 carloads were received from New Jersey. The wholesale price in New York has varied from July 13, when the first carload was reported from New Jersey at $1.80 as follows: August 1, $1; August 15, $1.35; September 1, $1.20; September 15, $1.28; October 1, $1.40; October 15, $1.55; November 1, $1.35, and November 15, $1.25. It is reported that New Jersey farmers are much discouraged over the labor situation. The cost of digging potatoes, harvesting corn, picking apples and other autumn labors has been a surprise and made an unhappy ending to an otherwise successful season. The weeds in the potato fields where digging was delayed on account of labor shortage increased the cost of digging fifty percent. In this connection the State Bureau of Markets says: "The greatly desired and expected increase in wheat planting did not materialize and cover crops which add so much to crop growth next year are missing this year. The high school boy help and the city labor relieved the situation almost none. If the entire country faces the same situation as New Jersey does, food production will be curtailed to an alarming extent next year and prices will of course reflect this condition.

Agricultural Extension Course. — The State Agricultural College has established an extension lecture course on agricultural subjects at Newark, free of tuition, for those interested in taking advantage of this opportunity. The lectures are given by the members of the college staff. They cover the following topics: Soils, fertilizers, corn, farm seeds and vegetable gardening. The lectures are of a semi-popular nature, designed to make a study of some of the broader aspects of agriculture in general and its more important phases.

Rural School Needs. — Assistant State Commissioner of Education Scott in his annual report urges better facilities for study in the rural schools of the state. He says that in many of them there are no adjustable seats, but the old-fashioned double seats, long out of date. Text books are not modern, he declares. The supply is meagre and maps are few. He also urges a minimum salary of $650 a year for the teachers. Some of the rural teachers now receive as low as $450 a year.

Farmers' Institute.—An interesting farmers' institute was held recently at Asbury Park for the agriculturists of Monmouth County. Elwood Douglas, of Freehold, the county farm demonstrator was in charge. Addresses were made on a number of appropriate subjects, and in the afternoon there was a meeting of women. At this session Miss Harriet Ware, of the State Agricultural College, discussed "What Shall We Eat?"—L.

NEW YORK NOTES

Dissatisfied with New School Law. —The town board of Dryden is making an effort to have the legislature repeal the new township school law. Other sections report dissatisfaction.

R. F. D. Routes Lengthened.—Following increases in the length of rural free delivery routes ten mail carries of Bath have resigned and others will follow suit. Many routes have been discontinued and others lengthened all over the state.

Coal Retailers Must Obey.—Syracuse retail coal dealers have failed to make full monthly reports of their business as requested by the government. They now face having their coal confiscated and their business cut off in an effort to teach retailers that the government means to be obeyed.

Sugar Situation Getting Worse.—Many stores are now completely sold out of sugar and no more can be obtained. Chain stores supplied by outside owners are most successful in securing small lots for very careful retailing. Combinations of other groceries, a popular resort to get people to buy largely of other things in order to get a pound of sugar, has been forbidden by the food administration, excepting that corn meal can be sold with sugar at the rate of two pounds to one.

Food Conservation Soon in Full Sway.—As the government found housewives very slow to accede to their requests to use other cereals in place of wheat in breads and other foods that the warring nations might be sent more wheat, as well as other badly needed foods, Federal and State authorities have been much concerned. After long conferences a new conservation plan is to be put into operation all over the state, consisting of propaganda in dailies and other papers and demonstrations in schools and public meetings.

Bean Prices Discussed.—Onondaga County bean growers with others thruout the state protest against the Federal food administration plan to fix bean prices on the California standard. They say it costs 50 percent more to grow beans here than in California. Beans are now selling here at $9 to $10 a bushel. California prices would mean a reduction of one-third.

Farmers Asked to Save Milk Cows. —In a telegram to the Tompkins County Food Conservation Committee Mr. Herbert Hoover asked the chairman of that committee to see that owners of cows in milk do not sell such to buyers who intend to slaughter them. "The production of dairy products must be stimulated in every way," he said, "and this principle will animate the new food commission just appointed." Already the public press far and wide is taking up the work of teaching the people the value of milk as a food. And together with the new agreement with the Dairymen's League the outlook seems brighter for the dairy industry than it ever has before, if the new commission lives up to the hopes it has inspired in producers and consumers of dairy products.

Hope for Release of Farmers.—In a public statement C. H. Bates, Secretary of the new state food commission, says that there is a hint that experienced farmers already drafted may be withdrawn from the army for work on the farms, as the government is learning that farmers feel so greatly hampered as to severely cut down production another year. Many sections are planning for only half of this year's output next year, owing to absence of labor, high cost of seed, fertilizers and lack of prices for this year's products.

Pea Growers' Contracts.—Canners are making contracts with farmers at $3 to $3.50 per cwt. of shelled peas for next year, an increase of 50 cents, with seed at the old price, $4 per bushel. Last year was a bad year for peas, and growers are not very anxious to sign up for next year. —F.

STATE POTATO GROWERS TO ORGANIZE

A call has been issued to all Pennsylvania potato growers to attend a meeting to be held Thursday, December 6, 1917, at 11 A. M. in the offices of the State Committee of Public Safety, Seventh Floor Finance Building, Philadelphia, to discuss and effect the organization of a state division of the Potato Association of America. All Pennsylvania potato growers are invited and urged to attend. The committee in charge includes Mr. Marvin E. Bushong of the Commission of Agriculture, Harrisburg, Chairman; C. E. Carothers, Deputy Secretary of Agriculture; John A. McSparran, Master of the State Grange; Dr. R. L. Watts, Dean, and Professor M. S. McDowell, Director of Extension of the Pennsylvania State College, and a representative from the Department of Agriculture at Washington.

It will be necessary to produce next year a potato crop twice the size of any yet grown in this country. Thru proper selection of varieties, a careful selection and fumigation of seed, preparation of soil including application of fertilizers and careful cultural and spraying methods, it should be possible to secure 25 percent of the necessary increase on the same acreage. The proposed state organization should take up these problems as an organized body.

FARMERS' INSTITUTES IN PENNSYLVANIA

First Section.—Cumberland County, Hogestown, Dec. 3; Centerville, Dec. 4-5; Newburg, Dec. 6-7; Speakers, Wm. M. Patton, Carl B. Thomas and Frank Kline.

Second Section. — Blair County, Geescytown, Dec. 3-4; Bellwood, Dec. 5-6; Tyrone, Dec. 7. Speakers, J. Stuart Groupe, F. H. Fassett, Mrs. Eugenia Benn and Geo. H. Rea.

Third Section. — Green County, Newtown, Dec. 3-4. Beaver County, Mt. Pleasant Church, Dec. 5-6; Fairview U. P. Church, Dec. 7-8. Speakers, Sheldon W. Funk, Theo. W. Wittman, H. E. Shroat, Geo. H. Rea.

Fourth Section.—Bradford County, Canton, Dec. 3-4. Potter County, Ulysses, Dec. 5; Coudersport, Dec. 6-7; Roulette, Dec. 8. Speakers, J. T. Campbell, M. H. McCallum, Fred W Card and Prof. Franklin Menges.

Fifth Section.—Schuylkill County, Lewistown, Dec. 3-4; Carbon County, Weatherly, Dec. 5; Big Creek, Dec. 6; Mahoning, Dec. 7-8. Speakers, D. H. Watts, E. B. Dorsett and M. H. McCallum.

FARM MEETING CALENDAR

International Live Stock Exposition, Chicago, Ill., December 1-8.

Pennsylvania Potato Growers' Association, Philadelphia, Pa., December 6.

New Jersey Horticultural Society, Newark, N. J., December 10-12.

Pennsylvania State Grange, Williamsport, Pa., December 11-13.

Delaware State Grange, Newark, Del., December 11-13.

Palace Poultry Show, New York City, December 11-15.

New York State Dairymen's Association, Syracuse, N. Y., December 11-14.

Maryland State Grange, Belair, Md., December 11-13.

Maryland Agricultural Societies, Baltimore, Md., December 18-21.

Madison Square Poultry Show, New York City, December 28-January 2.

New York State Breeders' Association, Syracuse, January 8-10.

New York State Fruit Growers' Association, Rochester, January 9-11.

New Jersey Corn Show, Trenton, January 23-25.

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34x4	$10.50	37x4½	$13.50

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30x3½	$6.00	34x4½	$8.50
32x3½	$7.00	35x4½	$9.00
33x4	$8.50	36x4½	$9.00
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By F. A. CARROLL, Mercer Co., N. J.

I consider the year I spent in cow testing work as one of the happiest and most profitable of my life. I want to pass along a good word for the work and relate some few experiences showing the value of such association to members as well as the tester.

A cow-tester, sometimes known as a supervisor or official tester, is a man trained in dairying, with practical experience with dairy cattle, in charge of a Cow Testing Association. An association is generally made up of twenty-six dairy farmers, with approximately four hundred cows. The cost per cow is usually $1.25 per year, or ten and a half cents per month. The tester spends one day a month at the farm of each member of the association. He arrives during the afternoon and begins work by weighing and taking samples of milk from each cow at milking time. During the feeding operation the roughage and grain for each cow is also weighed. The following morning a similar record is made. During the forenoon the samples of milk are tested for butterfat, and the value of the milk or butterfat is computed at market prices. The cost of feed consumed during 24 hours is then figured. The difference between the cost of feed and the value of product will determine the profit or loss per cow. The monthly production and profit is determined from the day's work and at the end of the year each member is given a complete record of the production of the individual cows in the herd.

Fall Plowing Makes Early Seeding Next Spring

I was working on a farm in the fall of 1913 when an offer came to take charge of a newly organized association in New Hampshire. I promptly turned the offer down as I did not believe that I wanted to go among strangers, eat at a different place every day and sleep in a different bed each night; in short, live with twenty-six different families every month. I did a great deal of thinking after turning down the offer, and when the second offer came I accepted.

First Impressions

I spent my first night with a young man who was principal of the local High School, and a graduate of an agricultural college. It was mainly thru his efforts that the association had been formed. The following evening he took me to the farm where I was to start work. This particular farmer was of a rather jovial nature, and he certainly did have a good time jollying me about all the equipment I carried. He said he did not believe in the work and did not need it himself, but as they needed members to make the association go, he joined for the good of his neighbors. He had twelve scrub cows, and he afterward admitted at a meeting of the association that he got enough good out of the association the first month to pay his dues for the year. He became a real force behind the association's work and went so far as to form an orchestra among the members, and it certainly proved worth while at our meetings.

I landed at another farm, about a week later, on a bitter cold night and found the owner a little out of sorts. He said he was not going to remain in the association and was not going to let me stay over night. I finally persuaded him to let me go to the barn with him. He was all alone and had 20 cows to milk. I took a pail and helped him milk and also got my samples. When I told him I had obtained my samples he was surprised, but he began to show interest. I explained the work and we talked cows until near midnight; and we were out at 4 A. M. the next morning. He also proved to be a good member. I recall another case where the owner would not let me stop the first month; but he changed his mind afterward when he found that two of his neighbors were making more milk by feeding a balanced ration.

The Get-Together Spirit

One thing this first Coos County Cow Testing Association accomplished for that county was the establishment of a get-together spirit among the dairymen. The good resulting from those meetings is still felt in the community, and the pleasant memories will live on for a long time. We would arrange a musical program and get a good speaker on some practical problem of interest to dairymen. The first talk was on the "Value of a Purebred Sire", and that one talk did as much, if not more, than any other thing toward opening the way for the placing of the 12 purebred bulls which we assisted in placing at the head of herds where their kind was never known before. Neighbors met at these meetings, which were usually held at a member's house, exchanging ideas and finding out that so and so was even a better fellow than he thought.

I believe that one big factor in the success of these meetings was that the ladies were made especially welcome and showed that they were indispensable by always having an abundant supply of good things to eat. One of the meetings was held in a big farm house, just before the summer boarders started to arrive. We had the Commissioner of Agriculture and another good speaker on the program, and the Cow Testing Association orchestra furnished some good music. When it came time for lunch the lady of the house rang a big cow bell and four young ladies appeared, dressed as milk maids, and carrying a full supply of cake, sandwiches and ice cream. This little bit of originality on the part of the lady of the house was only one of the many interesting ideas that were brought out at these gatherings.

Buying Feed

We gave considerable attention to getting the members to see the value of a balanced ration, and wherein proper feeding was a paying proposition. We talked buying grain in carload lots, and finally bought a carload of hominy feed. Some of the wise ones claimed that the farmers would not stick together and considered such a thing impractical, but it went thru with flying colors. Another farmer and I started out at 8 o'clock one morning, visited some ten or twelve farmers, got the necessary money and were at the bank, taking up the draft at 11 A. M. The first car meant a saving of something like $100 and was the beginning of a movement that has since brought a number of carloads of grain into that particular county.

This plan of buying grain in carload lots has proven worth while in a number of the associations thruout the country. It not only means a saving, but many times introduces varieties of grains essential to a good balanced ration for which the local dealer had never found a demand. It is only fair that a local dealer buying in carload lots and selling in 100-pound lots should receive a fair margin to pay for storage, distribution and bad bills; but many times the unscrupulous dealer has been given the right jolt when he has seen the farmers get together and buy co-operatively rather than pay him an excess profit.

During the year a number of dairymen became interested in the work, and without a great deal of effort we were able to organize two associations at the end of the year, when the time came to reorganize the old association. While it has been claimed by some of our leading authorities on Cow Testing Association work that the tester, or man in charge, is 75 percent of a successful association, like all other propositions of a similar nature, the work could not be a success if the members did not co-operate. I frankly admit that the success the first Coos County Cow Testing Association enjoyed was due primarily to the efforts of the progressive dairymen in that section.

DAIRY FACTS DEMONSTRATED

Among the many educational exhibits at the recent National Dairy Show there were many evidences of the many-sidedness of dairying. Following are notes on some of the most interesting:

Butterfat for Babies.—An exhibit of interest in demonstration of the great value of butterfat in infant feeding was that illustrating the disastrous effect of feeding young rodents skimmilk, as compared with the excellent growth made by those fed with a normal percent of butterfat. The same results are obtained in baby feeding, and indicate that the growth-making properties of the butterfat must not be denied the children.

Feeding Standards.—Pennsylvania State College had a small model of the famous respiration calorimeter, with which Dr. Armsby has conducted experiments and worked out nutrition facts that have attracted attention all over the world. In fact it has been well said that this remarkable device is better known in scientific circles abroad than it is at home. There was also a very valuable collection of charts well worth study, which the average visitor did not take the time to give it. Pennsylvania has 37 cow testing associations.

Tuberculosis Control.—The Ohio Experiment Station presented a view of the station herd to prove that it is possible to get rid of bovine tuberculosis. Some years ago the station herd was badly diseased, and all reactors were slaughtered. The present herd is the progeny of eight cows that remained after that clean-up. They have been tested annually and no females are bought or introduced into the herd. All males are given a thoro test before introduced. Grading up was demonstrated by a series of pictures. One red roan, for instance, with a record of 6,908 lbs. of milk and 287 lbs. of butter fat was bred to a Holstein bull. Her heifer calf gave 8,164 lbs. of milk and 206 lbs. of butter fat. This heifer was a blue or dark roan color. Her offspring, by a Holstein bull, was a clear black and white and gave 10,683 lbs. milk and 390 lbs. of butter fat. There were several similar families shown.

Feed Costs.—A study of present feed costs as compared with what have been average costs showed that in the case of a Jersey giving 6,884 lbs. of milk and 386 lbs. of fat, the profit, with average feed costs and with milk at $2 per cwt., was $40.70; on the basis of 27 cents for butter it was $21.52. With present feed prices and with milk at $3 per cwt. the profit was $25.74; while on the basis of 40 cents for butter fat it was but $1.76.

Value of a Sire.—One of the most interesting exhibits on the grounds related to value of a good sire. One of the best breeders in Ohio had a line of his best cows. In one stall there was the hide of a bull, draped over a pole, and on it was the significant sign: "Gone but not forgotten". Another statement was to the effect that this bull, Aagie 3d Wayne Paul DeKol, was sold for bologna, when a four-year-old. That was before any of his get had been tested. Four for his tested daughters were found to average 25,210 lbs. milk, and 973.3 lbs. of butter fat in a year. The lesson in this case is to keep what seems to be a good bull until some actual test of his female get may be made. One cow in this exhibit has a record of 26,204.1 lbs. milk and 1,030.2 lbs. fat, in a year. Another gave 20,876.3 lbs. milk and 802.5 lbs. fat in 10 months and dropped two living calves within the same year.

Dairying in Winter

Providing and Handling Proper Feeds

If one were to go back a few years in the dairy industry, he would remember how the average farmer did very little milking in winter. It was the custom to have most of the herd freshen in the early spring and get the advantage of the abundant pastures of May and June, and it was thought that it was an expensive proposition to feed grain during the cold months. The cows were fed mixed hay and corn stover for the most part, perhaps getting some corn and cob meal as a grain ration.

Change to Winter Feeding

Now that system has all been changed and thousands of our dairymen are making the most milk during December, January and February. There are several reasons why the winter dairy is the most profitable. The first is that cows freshening during September and October give a good yield of milk thru the winter months and then when spring comes the pastures furnish a feed that tends to keep up the flow until about July 1. The herd then has produced milk for a lactation period of nine or ten months. With the old method, where spring freshening was practiced, the hot, dry weather during July and August caused the pastures to dry up and that, along with the flies, decreased the milk flow from one-third to one-half, and all good dairymen know that when once a cow stops giving her maximum yield it is almost impossible to bring her back to it again. Probably the silo was the greatest factor that helped to give an economical winter feed for high yields. With the silo more feed can be made from one acre of corn than from an acre of any other crop.

Then, too, it was found that calves were raised more economically when dropped in the fall. They get a good start during the winter and when spring comes can be turned to pasture and are able to pick for themselves, while spring calves are always hampered by flies and dry pastures, resulting often in stunted, under-sized heifers. As for the economy of winter milk, the better price always received for it more than offsets the added cost of high grain feeding. The labor problem is less pressing in winter and today the hired help question is one that causes much worry.

Plans for Winter Feed

To run a winter dairy successfully one must begin in early spring and try to grow as many home-grown crops as possible. The dairy of today should be no larger than the farm can support, with the exception of a few tons of protein concentrates, which must be purchased.

Alfalfa hay of course is the best roughage which can be home grown. However, from two to three tons of oats and Canada field peas can be cut to the acre and will make a good legume hay. This crop must be sown early, as it will not grow during the late hot weather. It has been mentioned that corn furnishes an abundant amount of succulent feed. Cowpeas or soybeans planted from June 25 to July 15 make an excellent silage when mixed with corn. They can be put in the silo at the rate of one load of soybeans or cowpeas to

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three loads of corn. Perhaps these crops make a balanced ration but the cow would be required to eat enormous amounts of such bulky feeds to maintain her maximum production, so it is best to feed her less roughage and at the same time use a grain ration. Corn and cob meal can be supplied from the farm, thus making it necessary only to purchase some feeds rich in protein, such as cottonseed meal, oil meal or gluten.

Determining Amount of Feed

We all know that when a cow is on abundant pasture she is able to produce her maximum amount of milk at an economical cost. Therefore, it must be our aim to feed our winter herd under as near summer conditions as possible. A dairy cow might be compared to a machine. In order to get the greatest efficiency from it we must feed it according to its capacity. So it is with the cow. If we produce milk from her in an economical way, she must be fed just the right amount. It is easily seen that a high-producing cow may be underfed. If a cow is in fair physical condition when she freshens, she will give off some of her body fat for milk. This will naturally take care of part of her milk production for a time, but after about six weeks she will be in a lean condition and must have the correct amount of feed if she is to give her maximum production. The average cow uses about 50 percent of what she eats for maintenance. Let us suppose that 10 pounds of feed is the required amount necessary. If we should only give the cow 8 pounds, she will use 50 percent of 10, or 5 pounds, for maintenance and thus only 3 are left for milk. The cow's instinct is to give some milk, but any one can see that if 5 pounds are required for milk production and only 3 are available, the result will be a falling off in milk.

On the other hand, low-producing cows are liable to be overfed. Some cows are well called boarders. These animals we will say have the ability to use only 8 pounds of feed, 5 for maintenance and 3 for milk production. If they should be given 16 pounds of feed, they would use only 8 pounds for maintenance and milk production and the 2 extra pounds would be stored up as body fat. Therefore, some general conclusions should be made as to the right amount of grain a cow should receive. **One rule should be to feed a cow all she will eat without getting fat. It has also been found that on the average, one pound of grain should be fed for each 3½ pounds of milk produced.**

Roxanna Mercedes DeKol with Record of 20.2 lbs. butter and 522 lbs. milk. Owned by Maple Lawn Farm, Cortland Co., N. Y.

Balanced Rations

The ration of course should be balanced. Milk is made up of three things: Protein or curd, carbohydrates or sugars, and fats. Therefore our ideal dairy ration, in order to be balanced, must contain correct amounts of these ingredients. For the average herd a nutritive ratio of 1 to 5 is about right. The herdsman should also keep in mind that a feed should have palatibility and bulk.

Along with the right feeding principles goes the comfort of the cow. We are expecting her to do her best, and to do that, the stabling facilities must be good. Each cow should have 400 cubic feet of air space and too much emphasis cannot be put upon plenty of sunlight. Fresh water should be supplied at all times. Water buckets on the stantions make this condition ideal. On pleasant days the herd should be turned out in an exercising yard, as exercise is necessary to the health of the herd. The stable should be warm, but care should be taken not to overheat it. The sudden change from a warm stable to winter outside air is liable to cause pneumonia.—J. B., New Jersey.

TAINTS IN BUTTER

The taints sometimes noted in market butter may often be prevented if care is taken to see that all the churning apparatus is clean and free from undesirable odors and taints. Cleanliness, temperature and care are the three factors in good butter-making, states Bulletin No. 135, of the Pennsylvania State College.

After the butter is taken from the churn, the latter should be rinsed out with warm water, and the rinsing followed by a thoro washing with very hot water. The rinsing with warm water will remove any buttermilk which may remain in the pores of the wood. The hot water will remove any fat which may be left in the churn.

It is never well to use soap powders on the interior of the churn but the occasional use of a small amount of dairy washing powder or lime water is beneficial. To keep the churn sweet and free from odors and taints, **a small handful of lime placed in some water in the churn or in the last rinsing of the churn is very effective.**

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Farmers and Labor Unions

Common Interests Call For Common Action

In an address before the recent convention of the American Federation of Labor, at Buffalo, Mr. Gifford Pinchot said:

The earth feeds us and clothes us all, but she feeds and clothes us by the farmer's hand. He is her agent, thru whom she confers her most essential benefits. The farmer's occupation, being in closest touch with the fertile earth, is the fundamental occupation upon which all others rest.

Fundamental things are easily overlooked, and so it has been with the farmer. His contribution to the public welfare has been taken for granted, like summer and winter, night and day. No other equal proportion of our people has had so small a part in the Government, or so small a share in the benefits of modern progress. The farmer has asked for little, and has received less.

Ever since there have been farms in America, American farmers have lacked Nation-wide organization thru which their needs and their desires might be expressed, an organization which could do for them on the farm something approaching what the American Federation of Labor has done to increase the prosperity and progress of the man who works with his hands off the farm.

Farmers Are Wage Earners

The Federal Board of Farm Organizations, which Mr. Creasy, of Pennsylvania, and I have the honor to represent as fraternal delegates here, was organized to do for the farmers of America what the American Federation of Labor is already doing for the industrial workers of our country. Like the men who make up the Federation of Labor, the farmer is a wage earner. He is not a capitalist. What the farmer receives is wages for his time, not interest on his investment. The money the farmer earns is no more the product of the capital invested in his farm than the money earned by the plumber or the carpenter is the product of the capital invested in his tools.

The average earnings of the farmers of America may be said to consist of two or three hundred dollars a year in farm products consumed, and three or four hundred dollars a year in cash received for products sold. Both are the product of his labor. The farmer is not a capitalist but a wage-earner, just as truly a wage-earner as you men to whom I speak, and his fundamental interests are the interests of the wage-earners and not those of the capitalist.

The membership of the American Federation of Labor is composed of wage-earners who are food consumers. The membership of the Federal Board of Farm Organizations is composed of wage-earners who are food producers. It would be idle to deny that in some respects the apparent interests of the producer are opposed to the apparent interests of the consumer. But the farther we look under the surface, the more true we find it that the points where wage-earning producer and wage-earning consumer are in conflict are few, while for the most part their vital interests are found to be the same. In the long run, what is good for one is good for the other.

Both the wage-earning producer and the wage-earning consumer are members of the great body of Americans who gain their living with their hands. Both belong to that great majority of our people that have long been the prey of the exploiting special interests, and both stand solidly against monopoly. Both see in special privilege the common enemy. Both are outside the privileged class. Both stand for the use of the earth and all its resources for the benefit of the many rather than for the profit of the few. Both hold that it is better for the Government to help a poor man make a living for his family than to help a rich man increase his wealth. Both believe in clean politics and good government, and above all in taking the power of Government in America away from the dollar and vesting it in the man. Together they hold the fate of the war in their hands, and together they will supply the food, munitions, men, and will to win it.

Organization Accomplishments

You are responsible for the establishment of the Department of Labor, the Bureau of Labor Safety, the Bureau of Mines, and the Children's Bureau. A few of the laws your action secured are the Employers' Liability and Workmen's Compensation laws, the Child Labor Law, and the Seamen's Act. Groups of organized farmers, acting thru organized labor, secured the passage of the parcel post law, when the vast majority of the people had been for it without result for tens of years. Groups of organized farmers secured the Department of Agriculture, rural free delivery, the Bureau of Markets, and countless laws helpful to producer and consumer alike in nearly all the states. The Federal Board of Farm Organizations has just recently, by its protest, secured a genuine enforcement of the draft law, so that hereafter men will be chosen for the army with a view to their best service to the Nation instead of by chance alone.

If the wage-earning producer and the wage-earning consumer acting separately have done so much, is it unreasonable to expect that acting together they could eliminate far more than half the time and trouble now consumed in securing just and wise laws in the common interest?

One-third of the population of the United States consists of farmers, and at least another third consists of industrial wage-earners. Together we make up more than two-thirds of the people of the United States, and two-thirds is a safe majority. I venture to say that there is nothing the organized farmers and the organized wage-earners of America can not do if they set out to do it together.

All that we need is the will and the machinery for getting common action to advance our common interests. Such machinery is easy to create and very badly needed, and the time is ripe. You stand behind the Government in the War, and so do we. Your best manhood has been given to make the world safe for free peoples, and so has ours. Your heart and your will, like ours, are pledged to the cause of our country. Could there be a better time to join our hands? Divided we have failed not seldom—united for any just purpose, who could cause us to fail?

Pictures from Home

OVER there, with thousands of miles of sea and land between them and home, are Our Boys, smiling and fighting—fighting with bullets, against a dogged foe; with smiles, fighting homesickness and dread monotony.

It's a part of the nation's job to-day to keep those boys cheerful, to hold fast the bonds between camp and home, to make light hearts and smiling faces—and these things pictures can help to do—pictures of the home folks and the home doings, pictures of the neighbors, pictures that will enliven their memories of the days before the war—simple Kodak pictures, such as you can make. These can help.

Kodak catalogue, free at your dealer's or by mail.

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The Government this year is asking farmers to put increased acreage into grain. There is now a great demand for farm laborers to replace the many young men who have volunteered for service in the war. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature as to reduced railway rates to, Supt. of Immigration, Ottawa, Canada, or

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Rats, thieves, fire, bad weather—and away goes your profits on that bumper crop you worked so hard for! Here's your crop insurance—a MARTIN METAL CRIB of CORRUGATED, rust-proof iron, won't sag; won't bulge. Center perforated pipe and roof ventilator prevents grain sweating. Three doors for filling; spout and cut-off to run grain off. Built in sections that bolt together. Easiest to erect and most inexpensive bin on the market. Lasts a lifetime. Saves its cost many times.

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Is Our Country's Call. *Now is the time to start—the demand is big—everyman, woman, boy and girl can help. Besides supplying the Nation with food, you can make big profits with little effort—and this small investment,*

$8.95 Buys Champion 140-Egg Belle City Incubator

Hot Water—Copper Tank—Double Walls of Fibre Board—Self Regulated. With $5.25 Hot Water 140-Chick Brooder—both only $12.95. Frt. Paid E. of Rockies. Satisfaction Guaranteed. Share in my $1000 in Prizes. Conditions easy. Order now or write today for my Free Book, "Hatching Facts". —It tells all Jim Rohan, Pres. 1-2-3 Months' Home Test

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Near neighbors, schools and churches; only one mile to stores, creamery and electric cars; orchard of 75 peaches and apples; 2-story, 7-room house, 40 ft. barn, spring water, new 500-hen poultry house, cement foundation; to settle now price only $2500, part cash. Shown by our Norristown agent; details page 26 Strout's Catalogue of bargains, copy free. E. A. STROUT FARM AGENCY, DEPT. 1765, Land Title Bldg. Broad and Chestnut Sts., Phila., Pa.

CENTRAL ALBERTA FARM for sale, going concern, fully equipped. 1142 acres in one block, clear title, 600 under cultivation, best black loam clay subsoil, all fenced, good buildings, abundant good water, ideal for mixed farming, owner made fortune on grain; only one mile from railway station on mainline, elevators and growing town, cheap for cash, no agents. Address FELIX OHBERG, - - - Amisk, Alberta.

Sabo Sure Catch Trap. Designed to be placed in the animal's burrow. Your hardware dealer has them. Write for booklet. Agents Wanted. SABO TRAP MFG. CO. 3128 W. 25 St., Cleveland, Ohio

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Selby Service Satisfies Ship us your produce, poultry and eggs. Penna. Potatoes a specialty. Returns day goods are sold. Ask for our market letter. SELBY PRODUCE CO., PHILADELPHIA.

Best Prices Paid Send us your calves, eggs, shellbarks, black walnuts, butternuts and dressed poultry for the holidays. WM. H. COHEN & COMPANY, 229 WASHINGTON ST., NEW YORK CITY

Buy a farm in sunny prosperous Arkansas Three Drew Co. Farms of 228, 255 & 453 acres for sale by the owner. J. F. BARBEE, Monticello, Ark.

WANTED Man with good references and experience, to do general farm work. Married man whose wife can board help preferred. Box B, PENNSYLVANIA FARMER.

IDEAL RIVETER

You will want to mend your harness and belting this winter to be ready for the Spring rush. The Ideal Riveter is just what you want. Anyone can operate it. Use ordinary tubular rivets. Sent by prepaid parcel post for 2 yearly subscriptions at 75 cents each.

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Winter Hatching

How It May Be Accomplished

The practice of hatching chicks in January and February, for which the eggs must be gathered and set in December, cannot be recommended as a commercial practice. First, because the supply of eggs is usually rather low at this time and also because of the poor fertility and low percentage of hatch obtainable at the season of the year.

This condition of poor fertility and low percentage of hatch is to a certain extent natural and to be expected at this mid-winter season, but under proper conditions one can obtain a fair percentage of hatch.

A majority of beginners in the poultry business have an ambition to hatch big flocks at this early season, thinking that in this way they can develop early laying pullets and make extra early broilers of the cockerels. The theory is good, but it may be well to state that a majority of professional poultrymen do not consider such early hatches either profitable or desirable because of the low average of results obtainable at this season and the extra care that must be given these early chicks. Another thing to be remembered with regard to such chicks is that they usually mature in midsummer, lay a few eggs, then pass thru a molt and frequently do not do so well with respect to early laying as birds hatched in March and April.

Good Ventilation Provided.

Nevertheless, it is frequently desirable to hatch an extra-early brood of chicks in order to secure fully matured specimens for the early fall shows, or, as is often the practice with some breeders, to obtain extra-fine large cockerels for breeding purposes the next spring.

Success with early hatches depends a great deal upon having mature breeders, in good condition, from which to secure the eggs for hatching. Eggs from pullets in their first few months of laying will give very poor results and especially at this season of the year. Later, as the natural breeding season approaches and the pullets have been laying for six months or over, their eggs can be used with some degree of success. However, for best results one should use yearling hens or two-year-olds in the breeding pen.

For the production of hatching eggs this early in the season a somewhat different plan of mating the birds must be followed in order to secure results. Well matured cockerels mated to hens, either yearlings or two-year-olds, will give very good results, but it is not likely that cockerels of sufficient maturity can be obtained at this early season. Therefore, the best plan is to use yearling males, as cockerels should be nearly a year old before being used for breeding.

The next consideration in mating the birds is the number of females to each male. With the general purpose breeds, where one male to ten hens gives satisfactory results in the spring season, it will be found necessary to have one male to every six or seven hens if maximum results are to be obtained in winter hatching. With Leghorns, a large number of females to each male will give good results, say twelve to fifteen hens to the male for winter breeding where perhaps twenty females to each male are allowed in the spring season.

Our experience in breeding poultry has been that best results in fertility and hatchability are obtained where the birds are mated in flocks of such size as will require only one male to a pen. This will be found particularly needful in mating for the production of winter hatching eggs.

A flock of such size as to require two males may be conducted with just as much success as the single male flock by having a pen for one of the males, allowing each male out with the flock on alternate days. In fact, we have practiced this plan of alternating the males in our breeding pens with more success than the single male mating. One of the chief recommendations of this plan is the fact that it gives each male a day away from the flock to be fed up and kept in condition, thus overcoming the trouble of having run-down males, so frequently experienced where they are with the flock constantly.

Next in importance comes the care of the eggs. To let the eggs remain in the nests until chilled is bound to prove detrimental to their hatching qualities. It is best at this season to gather the hatching eggs at least twice a day and store them in a room having a fairly even temperature of not over sixty degrees. Best results will be obtained if the eggs are set by the time they are a week old, as after an egg is three days old it loses in vitality every day it is kept. In our experience eggs over two weeks old have always given rather poor results.

The stumbling-block in producing early season hatching eggs is very frequently improper housing and feeding of the flock. The house for the breeders should be well ventilated and of such construction as to allow an abundance of sunshine to enter, yet weather proof and not so large that the small flock of breeders cannot keep warm in cold weather.

An adaptation of the open front type of house, having a front made of one-third wire protected by duck covered screens that can be opened and closed at will, one-third glass sash, and one-third wood will be found most satisfactory. The scratching shed type of house or one having scratching quarters under the floor of the house is very desirable for the breeding flock. This allows the hens an inclosed portion of earth in which to scratch. As far as the health of the flock is concerned, free range even in the coldest weather is good. However, if any production is to be had this cannot be allowed. Roosting quarters should be small and well protected to keep the birds from having frozen combs and toes.

The importance of proper feeding cannot be overlooked in the endeavor to produce hatchable eggs. The most important thing in feeding the breeders is not to force production by feeding over-rich mixtures and not to get the hens over-fat, as excess fat is very detrimental to the production of fertile eggs.

The following plan of feeding has been found to give very good results: For the grain feed the breeders receive equal parts by measure of corn, wheat screenings and oats, fed morning and night in litter, a quart a day being allowed to a dozen hens.

At noon a moist mash is fed consisting of equal parts of wheat bran, alfalfa meal and beef scraps. This mixture is made merely moist and as much fed as the fowls will clean up in fifteen minutes. To add variety to the ration the breeding fowls are allowed the mash mixture fed to the laying hens consisting of: 200 lbs. wheat bran; 100 lbs. corn meal; 100 lbs. middlings; 100 lbs. linseed meal; 100 lbs. gluten; 100 lbs. ground oats; 100 lbs. alfalfa meal. The substitution of this mash once a week keeps the hens from getting tired of the other less appetizing mash. The laying mash could not be fed to the breeders all the time because it is too forcing. However, very good production can be obtained from this mash and as it is much cheaper than the mash fed to the layers it is being used entirely by many poultrymen.

A Comfortable Home for Breeding Flock

One of the greatest helps to fertility is succulent green food supplied daily. Mangles, sprouted oats and cabbage are excellent for this purpose. Hens are exceedingly fond of the mangles and they seem to be very beneficial. Green food with the exception of sprouted oats should be allowed in such quantities as the fowls will clean up during the day. Sprouted oats should be fed in such amounts as the flock will clean up in half an hour.

Another thing that should not be forgotten is a supply of hot water on cold mornings instead of the cold icy stuff usually offered the hens. It greatly stimulates production and at little cost other than slight extra labor.—J. Raymond Kessler, Chester Co. Pa.

INCREASE IN POULTRY URGED

The United States Department of Agriculture wishes every farmer to understand the importanee of doubling our poultry production next year. It is a vital part of the general food production campaign, and that campaign must be carried out in all its details to insure victory in this war. The chief poultry increase must be made on the general farms of the country—on every farm in the country. It must be made as a by-product of general farming. The farmer must get his flock to such size, in proportion to his farm, that all the waste and scraps, and land available for chickens to run on will be used, and the fowls kept up from these sources and a reasonable amount of other feed. The Department does not suggest that extensive poultry enterprises be taken up by the general farmer. In fact, it warns against that very thing. But it urges every farmer to keep just as many hens, and produce just as many chickens and eggs as he can economically and as a by-product of his general farming.

The average size of the farm flock in the United States now is forty hens. If the average is increased to one hundred hens next year the desired increase in production should be obtained. Many farms, of course, can have flocks of several hundred, and some farms will have to keep less. But the effort is to increase the farm average to at least 100 hens.

It is an astounding fact that there are a million and a half eggless farms in the United States—an economic anomaly and an agricultural absurdity. Out of a total of 6,731,502 farms, 1,527,743 report no egg production in the last census.

During the winter and early spring season there is entirely too much trouble in our poultry flocks from colds, roup and similar respiratory diseases. These are largely a result of drafts in the houses. It will pay the poultry keeper, therefore, to nail up any cracks in the back, sides and roof of his henhouse.

—

Do not crowd the poultry house. From two to five square feet of floor space per bird should be allowed. The exact ratio should depend upon the breed and the extent of the yarding. As a rule it will be found advisable to allow about four square feet for the lighter breeds, such as the leghorns.

—

There should be about five or six inches of straw litter placed in the house. The grain may be fed in this. The birds will scratch in this and exercise will be induced continually. Clean nesting material should be placed in the nest boxes. There should be one nest box for every four birds. —Geo. W. Hervey, Missouri College of Agriculture.

Last Chance
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Genuine New Edison
at the
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Here's your chance, and it's the last one! The very last announcement that will be made in this paper before the big increase in the price of the New Edison.

Orders for the increase have come from Mr. Edison himself. High costs of materials and labor have made it necessary. Mr. Edison regrets the necessity of this price raise but conditions make it essential. So, if you want a New Edison now is the time to get it. Don't put it off.

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Read the Coupon Below! An astounding offer—the New Edison, Mr. Edison's great new phonograph with the new Diamond Stylus reproducer, and twelve of the very latest new Diamond Amberol Records, sent to you on *absolutely free trial. Send no money*—just fill out the coupon below and send it to us at once. We will send you the complete outfit immediately. Entertain your family and friends with the latest song hits of the big cities. Laugh at the side-splitting minstrel shows. Hear anything from Grand Opera to Comic Vaudeville. Then, if you choose send the whole outfit back to us *at our expense.* But you must hurry if you want to take advantage of this offer.

Still Only $1.00 After Trial If you wish to keep Mr. Edison's superb new instrument after the free trial, send us only $1. Pay balance of $35.90, which includes the small war tax of 90 cents, effective at once,—for complete outfit in easy payments of only $3.50 a month.

Think of it—a $1.00 payment, and a few dollars a month to get this outfit of Mr. Edison's new phonograph with the Diamond Stylus reproducer, the life-like music—the same Diamond Amberol Records—all the musical results of the highest priced outfits. The *finest*, the *best* that money can buy at very much less than the price at which imitations of the Genuine New Edison are offered.

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Name.......... Address or R. F. D. No..........
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Shipping point.......... Occupation..........
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Send us three yearly subscriptions to Pennsylvania Farmer, at 75 cents each, and we will send you one of these wonderful Bibles prepaid.

Pennsylvania Farmer
261 South Third Street Philadelphia, Pa.

Size of Bible 5 1-2x3 3-4 in.

Farm Products Prices and Prospects

The Marketing of Farm Products

(Continued from page 1.)

4. Teach the consumer to use food efficiently, thus eliminating waste.

That a Hoover was necessary at a time of national peril is a sad commentary on the judgment of those who put their faith in co-operation as a solution of food-distribution problems. There are many types of co-operation, and to say that those in use have failed is not necessarily to condemn the principle. But of the present experiments it is altogether true to say that the farmer is afraid to trust it; and the consumer will not make the effort required to ensure its success.

It happens then, that in an era of rapidly developing rural intelligence, at the hight of the application of scientific method to farming in the period of widely distributed production advice, the farmer still remains comparatively poor, and in New York, Philadelphia and other cities bread-riots and starvation exist.

High Wages—and Starvation

There is then an objective test. One needs but to read his newspaper. Hunger needs no further argument; in its presence we may assume that all is not well and begin by seeking for the difficulty.

I stood on the streets of lower Philadelphia — Second, Third and Fourth — morning after morning during the latter part of last winter and saw with growing amazement thousands of women rioting, saw them hustled into police wagons because they overturned push-carts and raided provision stores. Prices were intolerable. Men with large families were unable to buy the necessary food for the support of life. Yet everyone was at work and wages had never been so high. In these days $25 per week was the upward limit for semi-skilled wages. On this a family of five could live, but no one save those who have been forced to it may ever understand how. A wage of $18 per week for the same family would provide a tenement room and a bare existence. These wages, of course, make no provision for unemployment.

There was a cry of crop shortage, but no measures were taken to conserve the food supply. Poor people within a few squares of the docks spoke bitterly of produce consigned abroad and spoiling because of the congestion of shipping. An egg king made himself famous in Chicago. Thousands of tons of potatoes stood in railroad yards until they were frozen and spoiled. It was our first serious experience with food speculators.

The Philadelphia Experience

The Mayor of Philadelphia, as the mayors of other cities, appointed a food commission. Several instructors in Economics in the Wharton School of the University of Pennsylvania were asked to assist in the gathering and compiling of data. Their work covered a period of eight weeks and was perhaps the most thoro survey of prices and wages ever made in any city. The results showed clearly what was happening. Wages, as employers had repeatedly protested, were rising. True. But prices were outdistancing wages twice over. While wages had gone up *21 percent, family budget prices had risen 33 percent. This was an actual case in an actual city. Government figures showed a ratio at that time of 16 percent for wage increases and 63 percent for prices. It may thus be seen that Philadelphia was no worse, but better off, than the nation's average.

Farmers near Philadelphia had not noted any such increase in incomes as would be indicated by a 33 percent increase in food prices. They began to talk. The consumer's wail was rapidly becoming a howl. Stories filled the current publications of speculators' profits. The egg market was cornered in Chicago. Potatoes went to $5.50 per bushel; onions were $20 a bag. Consumers turned to beans and rice; and they promptly doubled in price. Never was there such a concerted clamor.

It was then that a terrible doubt began to assail the minds of the people everywhere. For the first time they began to realize that these conditions were not due to the rapacity and greed of middlemen and speculators but to the inherent wrongness of the distributive system.

Public Interest and Profit

Suddenly all of us began to feel the pressure on the food supply, and for the first time realized that we were dependent upon a system not built primarily to furnish food but to furnish profit to its controller. Private business was tried and found wanting—the good old laws of supply and demand, so many years inviolate, began to wear a shop-worn air under the assaults of the hungry.

America began to realize that in order to live we must eat—and eating involved getting food. The conclusion was forced that after all the primary business of life is to provide the hungry family with food, not automobiles or pianos, and that somehow food stood in a class apart and ought not to be gambled with by those whose wants are measured in terms of luxury.

The intolerable conditions of last winter were relieved by the coming of spring and new crops. But the situation remains the same and there will be bread riots, slow starvation and all degrees of under-nutrition all thru another winter of high wages and plenty of work. This will be so until public agencies realize fully and come to act upon the knowledge that the ratio between prices and wages is the index of a nation's prosperity, not the declaration of dividends and the cutting of melons. Everyone knows that while women were revolting in desperation before the City Hall, urged by the hungry cries of their children, such feasting and revelry as Rome never knew was in full swing along Broadway.

Money wages were rising; real wages (the ratio between wages and prices) were steadily going down—as they have since 1900. The explanation for the food-riots last winter and the feasting on Broadway is in large part comprehended in the accompanying chart.

Summary of Wage Committee

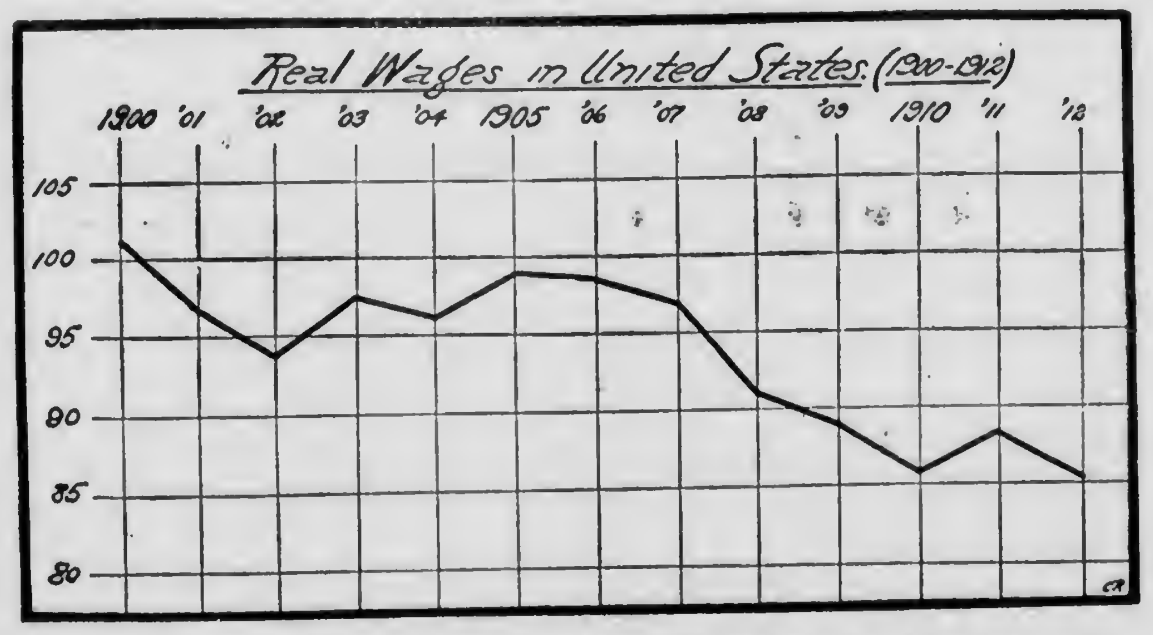
*Note: (a) Wages from January 1, 1916 to March 10, 1917 show an increase of approximately 21 percent. This is an average of the three lines of investigation made. Food prices for the same period show an increase of 33 percent.

(b) Unions with long period contracts and salaried men have to a great extent received no increase during the period mentioned.

(c) The wages are irregular in every industry, especially so in the textile and cigar industries. No fixed relation between wages and food costs prevails.

(d) The steel industries show a greater wage increase than any other industry.

(e) Wage increases of department stores could not be obtained. One store employing over 3,000 workers reports an increase of 9.4 percent from January 1, 1916 to January 1, 1917.



Showing How the Purchasing Power of Wages Declined Between the Years 1910 and 1912

Note.—This is the first installment of this report, which will be published in full in these columns. The next instalment, to be published next week, will report on comparison of farmers' and consumers' prices in five market centers in Pennsylvania, and describe some of the marketing conditions found by the investigator. This is the most complete investigation of the kind ever made in the markets of the state and every installment will be full of interest to the farmer shipper and marketman.—The Editors.

An Abundant Labor Supply

Our country has a sufficient supply of men and women to produce everything that is essential to the winning of this war. In times of prosperous peace, millions of workers are engaged in the production of articles that supply no vital want of a people engaged in a gigantic struggle. A little later these workers will awaken to the fact that they are making their lives count in this crisis and they will want to contribute their share, but our country needs their work now. The shortage in labor for the production of food, ships, munitions and other necessary things is due only to the failure of these workers to realize that labor devoted to things not essential is worse than wasted today. Russia has quit; Italy cannot do much in an aggressive way; there is a woefully weary element in France; the men, women and children of England, Canada and other countries of the English Empire are contributing their all, and our allies must be helped with abundant supplies of foods, munitions and men.

The farmers of this country are in a position to render a service of immense magnitude thru assertion of their power as citizens. There are important influences at work to prevent Congress from placing a ban upon the production of luxuries, and it rests upon the individual farmers thruout every state of our Union to bring such influences to bear upon their members of Congress that a supply of labor adequate to the production of all necessities should be provided without any delay by a national enactment, placing a ban upon the production of a sufficient number of luxuries to release immediately one million workers. This will be a blessing to the workers because they will turn to labor of which they may be proud when the war is won, and it will enable us to provide food and everything else necessary to the war, and that is the only thing that counts today.

Will not every farmer write a personal letter to his United States Senators and Congressman demanding the legislation that will release these workers? It is no time to argue respecting the products to be barred; that can be determined in a congressional committee. But every member of Congress should be held responsible for legislation by which one million workers may be released. This is no selfish movement, but one of patriotism. There is abundant labor for the production of all necessaries, and the man who writes a letter helping to secure this legislation performs a duty as a patriot. We have no right to expect our members of Congress to run counter to the will of labor unions and interested manufacturers unless we support them thru such a universal demand.

Every agricultural paper is asked to carry this request and the reader is urged to write the letters at once because it is personal letters that count, and also to ask his local bank to circulate petitions and to ask his grange to do the same. The matter of demanding a supply of labor lies with the farmers.—Alva Agee, Sec. N. J. State Board of Agriculture.

Grange

UNIQUE FARM LOAN PLAN

Not long after the entry of this country into the war with Germany, early last spring, Marc W. Cole, a Western New York farmer and fruit grower, conceived the idea of the Patriotic Farm Loan. At that time everybody was telling the farmer that he must grow larger crops to meet the demands of the nation and its allies. Mr. Cole, however, saw that unless the farmers were able to secure money to finance this maximum crop production, they would be unable to meet the demand.

A simple plan was worked out. A fund was to be created, largely as the Red Cross received its contributions, by patriotic men and from patriotic motives. Patriotic men of wealth in New York City were appealed to. When the plan was explained to them, they saw that it was a good thing and showed their willingness to aid by backing it with their money.

It was decided to make the loans to farmers who were lacking in the usual requirements of banking credits, men who needed money and did not have a standing with the banks on whom the banks did not want to take a chance. The notes were to be short term ones, all of them maturing before December 1st, or earlier, at the option of the borrower, and were to be unindorsed, bearing 4½ percent interest.

The co-operation of the grange was secured in making these loans. Every master of the nine hundred granges in the state was asked to pick out three men to act as a local loan committee. That committee vouched for the character of the borrower; that he had a piece of land and could, under reasonable conditions, produce a crop. They did not endorse the note or become in any way responsible for the amount.

The first loan was made by the Patriotic Farm Loan on April 29th. Since then over 4,000 loans have been made, amounting to about $500,000. After the spring planting was completed loans were made on wheat and rye, at the rate of $9 an acre. These wheat and rye loans run a year. A great "Million Acres" wheat planting campaign was financed by the Patriotic Farmers' Loan. Seed wheat and rye and fertilizers were bought and sold to the farmers at cost, where the local supply was not sufficient. As a result of this movement the reports show that New York farmers have seeded upwards of 700,000 acres of wheat, which is more than in any other year since 1879, and 140,000 acres of rye. Some of the increased acreage may be due to the stimulus of the government's $2 minimum guarantee for wheat next year, but the Patriotic Farmers' Loan started the wheat campaign first.

The acid test of this scheme is the promptness with which the payments are met. Secretary Cole reports that 90 percent of the loans made this season have been paid at maturity, and the other ten percent is being paid as farmers market their crops. The late season of ripening has delayed harvesting and marketing.

The office of the Patriotic Farmers' Loan is in Utica, and the loans are made thru three hundred banks and eighteen hundred loan committee men selected by the granges.

This loan scheme has not only helped the farmers and in increasing production, but it has helped the banks and other lines of business. One bank in Utica has opened twenty-five small accounts as a result of the loan. It is the intention to make these loans a permanent short term credit for financing farmers.—R.

A BANK'S FARM EXHIBIT

Last spring the Citizens' Trust Company of Utica, N. Y., in co-operation with the Oneida County Farm Bureau promoted a "larger potato crop" movement, which resulted in quite a number of the farmers of the county growing potatoes under the supervision of O. F. Ross, the Farm Bureau agent. The farmers who followed the Farm Bureau methods made larger yields than the average, one securing 400 bushels to the acre.

This movement led the Citizens' Trust Company to put on an exhibit of the farm products of the county. The display was tastefully arranged in the bank, with an appropriate tableau showing a harvest field with men in the act of loading bundles of grain onto a wagon, typifying the importance of the farmer in the county and state. There were magnificent exhibits of the cereals, fruits and vegetables. One farmer exhibited forty-five varieties of edible squash, and a honey exhibit showing the different shades of color of honey from the various plants from which the bees secure the nectar.

There were many placards calling attention to the agricultural importance of Oneida county. From them we learned that the farm property in the county is estimated at $40,000,000. Oneida county produces vegetable crops valued at over $1,000,000. Her dairy animals are valued at $4,000,000, and there are 70,000 dairy cows in the county. Oneida county farmers sell 28,000,000 gallons of milk a year, and their hay and forage crops are valued at $3,000,000.

This movement promoted by the bank is doing much to create interest in better farming. It has given the city people a better knowledge and a higher appreciation of the relation of agriculture to the city, and has enabled the farmer to secure a more correct view of the banks and their relation to the farms.—R.

AMONG THE GRANGES

Lackawanna Co., Pa. — Pomona Grange No. 45 met with West Abington Grange in November. Delegates from every grange in the county were on hand. The morning session was devoted to hearing the reports from the delegates, and appointing committees.

In the afternoon, election of officers took up much of the time. After installation by L. Wiship, past master, the usual order of business was conducted. A short memorial service was held for five members who have passed away during the past year. It was decided to hold the same kind of service each May for the deceased friends.

Resolutions were read favoring the keeping of the farm boy who is trained to do the farm work, on the farm, instead of putting him in active war service and training, while the farmer has to spend much valuable time with unskilled labor, thereby losing by waste, time and thousands of dollars' worth of food stuffs thru neglect.—E. A. K.

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Thinking About Christmas

Some Common Sense Gifts

A wash cloth for bathing the back can be made into a very much appreciated and a more attractive present than you may think. Take a piece of good quality Turkish toweling about 14 by 6 inches; to each end crochet several chains in a delicate hued silk; gather the chain together into small hoops at each end.

A ten-cent wash cloth with hand crochet around it is also always quite acceptable.

Always a most acceptable present in my experience is a dainty handkerchief or several of them. For 12½ cents or 25 cents, according to your purse, buy plain sheer handkerchiefs, stamp them with the initials of your friends, and work in coral, delft blue, or any attractive shade of silk. If you can not embroider, any art shop will "do" the initials at the rate of 5 cents apiece.

If tatting is your forte, do a pattern in blue and tan, insert medallions in tan linen crash for a table runner and put an edge around it. This is a beautiful present for a housewife.

A Turkish towel with one large initial worked in French knots or worked solid is alluring to every matron, for we never have enough such towels. The ends of a small guest towel scalloped make another attractive gift. To the young girl or mature woman with nimble fingers such work will be a delightful recreation from the army knitting that we have all been doing so loyally these three months.

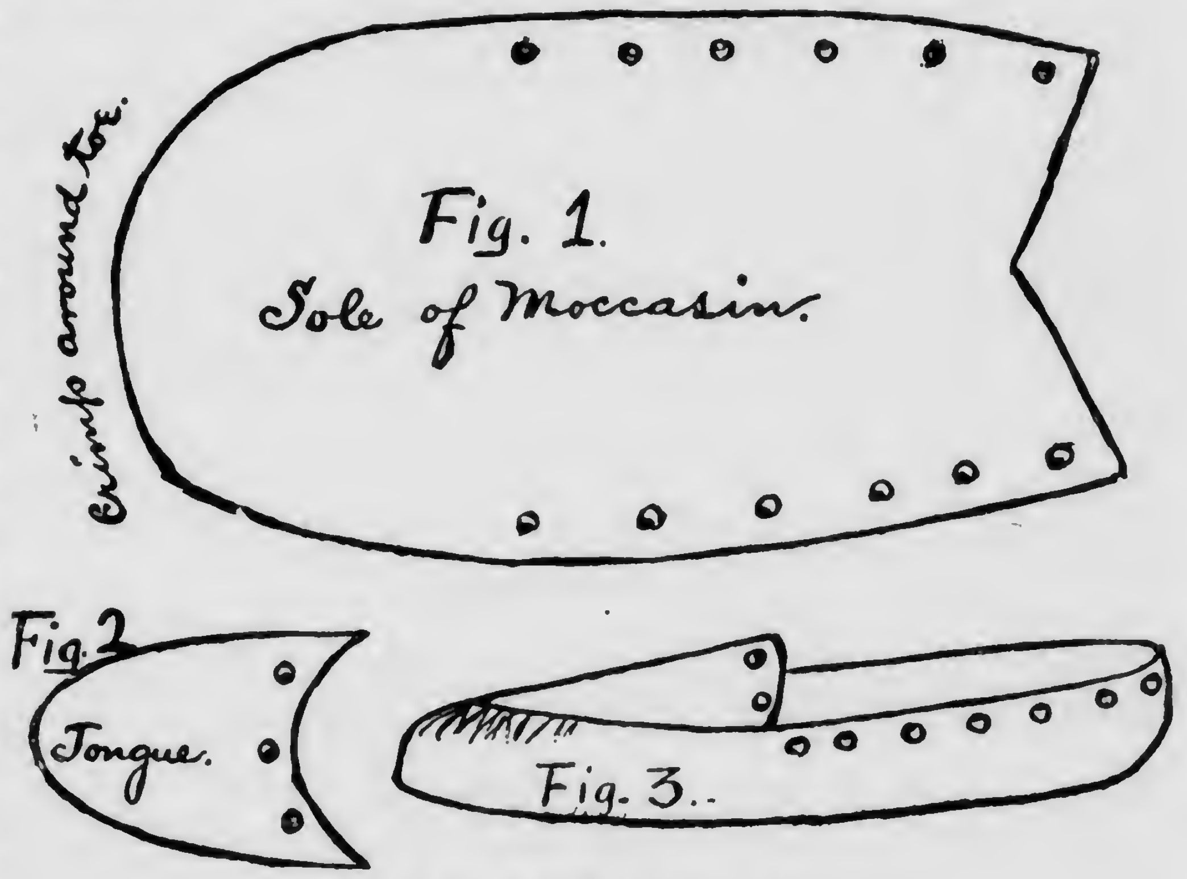
One of the very nicest presents I ever had was a new lining for my muff made in this way: A piece of beautiful ribbon 7 inches wide and ¾ yard long was used, a few skeins of embroidery silk and four tiny gilt safety pins. The ribbons had been cut in halves, and the ends of each piece hemmed by rolling the ribbon a little and catching it with a fancy stitch, using embroidery silk. Then one piece was laid on another exactly even, and the selvages were briarstitched together, so that I could run my hands into it. But the ribbon was not caught together at the extreme ends; instead, a little open space was left. A small gilt safety-pin was placed in each corner so that this lining could be pinned in the muff and easily removed for cleaning so that my best gloves and handkerchief need not soil from a dirty lining. — Mrs. Elizabeth O. Jean, Baltimore Co., Md.

To Make Fragrant Beads

Last Christmas I had two ounces of very expensive carnation perfume given to me. I never use perfume, so I made several strings of salt-cornstarch beads for Christmas gifts this year for my friends, and used that perfume to enhance their worth. I made them according to one of the finest salt-bead recipes I ever knew: Two-fifths cornstarch to three-fifths very fine table salt. Probably you know how. If not, you must heat the salt until it crackles, then pour it on the cornstarch liquidified to the consistency of cream. I thinned this with perfume. One must use quite a quantity of it to make the beads fragrant, for the heat seems to dry out out some of the odor. But I had a quantity, and was willing to use it. A few drops of oil of roses, lilacs, or any other strongly concentrated odor could have been used instead, working it in after the dough was made.

I used enough pink oil paint (comes in tubes) to simulate the color of pink carnations, working it in when the dough was done. Then I rolled, partly dried, and pierced my beads with a very large pin. If they are dry enough, you need not stick them on pins, but the plate on which you dry them must be shaken now and then so they will not settle and get flat on one side. But since you must make the hole with a pin you might just as well stick that pin into a cushion until the bead dries. For the end of each breast-length chain, I molded a pretty, pink heart—not a difficult undertaking at all. This was pierced thru the center top. The beads were strung with white iridescent and jet glass beads. The rainbow tints of the iridescents contining much pink were just the thing. These iridescents were seed beads; the jets were a little larger, and next came pink carnation ones.

I think I shall always like to make salt-beads. It is too charming a fad to be cast aside as worthless as soon as it has had its rage. Salt-bead dough made from the very finest table salt after the directions given here is beautiful. A little soap jelly added to the cornstarch and the wetting will soften the grain of the dough. The tube oil paint will not fade as would other dyes.



A Pair Makes A Good Gigt

Beautiful hat pins can be evolved by pinching a bit of the dough onto the round end of a penny hat pin. When this is dry, roll out a wee sheet of dough and cut it with an inch-wide, round cutter—the top of a little tin spice can, or something of the sort. Push this little round of dough well up against the base of your hat pin head, running it onto the hat exactly thru the middle. Now pinch and molk this thin round piece into the form of a flower. Your own ideas will suggest the shape you wish to attain. It should be very simple. If you can press a glittering bead, or a rhinestone, or jet jewel, such as is used in some kinds of embroidering, onto the wet dough, the effect is unusually pretty.

Children love to mold this bright dough into shapes to suit their fancy. I recently saw a gay red pig about an inch and a half long made of this dough; he even had a curly tail and wee, wee ears.—Nina Willard Wallace, Broome Co., N. Y.

How To Make Moccasins

A man who passed his boyhood near one of the western forts says that the Indian moccasin is the most comfortable thing for a house slipper than any one ever put on their feet. To make your pattern, lay down some stiff cloth, stand firmly on this material, and mark the shape of the foot, allowing a margin of two inches all around. This is for the sole and upper combined (Fig. 1). Bend your pattern up neatly all around the foot, leaving the heel seam open, as in Fig. 1. Then fit a tongue (Fig. 2) over the top of the foot.

The moccasin is cut from medium heavy calf-skin, which should be wet when you come to sew it. Use the strongest linen thread at your command, or shoemaker's waxed thread.

The sole is sewed onto the tongue around the front, and along the top. Then the foot is pushed in, and the back seam is fitted good and snug close up against the heel. Now we can sew it up.

Next, punch holes around the top of your moccasin at regular intervals, and thread a cord thru them in order to draw up any extra fullness and keep the moccasin securely on the foot.

Lastly, wet the moccasins and wear them until they dry and are perfectly and comfortably fitted to the feet.

They may be made for house wear from any fairly heavy leather; chamois is too soft and will not wear well.

The use of moccasins will in time give a person an entirely different and more springy gait than our shoes do, for the wearer gets into the habit of walking on the ball of the foot.—C. A. Browne, Hudson Co., N. J.

A HOME-MADE TRAY

I would like to tell how we made a lovely tray from an old mahogany picture frame, and gave to my newly married sister. We had grown tired of the picture, but the frame had been in the family for years, and we wished her to have it. It was 1½ inches deep, 12½ inches wide and 17 inches long, just a pretty size. I gave it a new coat of mahogany varnish stain, glued on bits of veneering cut from an old clock to patch the nicks, and put a brass handle on each end with screw eyes. The handles cost 10 cents at a furniture dealers.

I bought one-third yard of fancy cretonne in Japanese effect at 65 cents a yard. The background was

checkered in 2-inch squares in gray and white. The design running over the lattice-like background was pink wisteria and roses, with blue crested birds. We cut this so that nine birds came inside the frame.

The back was nailed into place, then a piece of dark green cloth was glued all over the back, within a half inch of the frame's edge. This covered the nails, and gave a neat finish. At the stores a tray like this would cost about $4. (Yes, more than that. — Editor.) — Leda W. Chace, Tioga Co., Pa.

MEETING THE MEAT PROBLEM

How to Substitute Wisely

It is with many of us on the farms not so much a question of holding as of having in regard to the meat that we are urged to save a tiny bit each day in order to release more to feed our friends in Europe. A great many of us probably are not getting much beef ourselves these days, but in this section we can possibly substitute for our pork at one or perhaps two meals per day either cottage cheese made with our skimmilk or poultry products or fish or sometimes, when we can catch them, rabbits, and so have a little more pork meat to sell to send "over there" to feed our allies' armies and their folks at home. Let us remember that these men are the barriers that are keeping Prussian destruction from doing unto our homes as they have done to the poor French mother and her home as pictured on the first page.

Comfortable and Stylish.
Hat of Velour, with white fur edge. (Photo by Underwood & Underwood.)

And so this winter we will bravely and loyally study how to provide instead of some beef and pork some other foods that do the same kind of service in our bodies, but which can not so readily be shipped abroad.

Rabbit Cookery

Mother had always considered any one who would eat rabbits as not much better than uncivilized Indians or the colored brother who revels in "possum" stew, but when her oldest son attained to the proud age when he could legally secure a hunter's license, and proudly laid two fuzzy bunnies at her feet as the result of hours of tramping thru mud and underbrush, she realized that a domestic crisis was at hand. Other people ate rabbits; rabbits feed upon fresh clean grass and toothsome twigs; rabbits are considered by many well worth eating, and it now devolved upon her to learn how to cook them in the most toothsome way, for "Son" expected it.

While "Son" was dressing the two bunnies she looked over the back numbers of her favorite paper until she came to "Recipes for Cooking Rabbits". The opening paragraph of the article said that after being dressed they should be soaked in salt water for at least two hours before being put to boil; also that very large rabbits or any whose bones break with difficulty indicate that they may be rather old and tough, therefore these should be parboiled, but the ordinary young rabbit, if well soaked, can be cooked in the water in which it is soaked.

Following were the recipes which Mother tried with most success:

Fried Rabbit

Cook the rabbit in salted water until done, but not so tender that the meat will drop from the bones. Cut two slices of salt pork in small pieces. In the fat fry the pieces of rabbit until dark brown, seasoning with salt and pepper. Remove to a platter, thicken the gravy and pour over the rabbit just before serving.

Rabbit With Spaghetti

Boil the rabbit until tender and remove the meat from bones. Cook half a package of spaghetti. In a buttered baking dish put a layer of spaghetti, a layer of parboiled onions and layer of the rabbit meat, season with salt and pepper, add another layer of spaghetti, etc., until the dish is filled. Over the top put a layer of thin slices of bacon, pour in one pint of sweet milk and bake 40 minute.

Rabbit With Vegetables

Parboil rabbit until tender, season with salt and pepper, then drain well. In a casserole put some cooked carrots, turnips and potatoes, 1 cup canned tomatoes and 2 stalks of celery cut in small pieces. Over the top lay the rabbit, reserving the ribs and parts having small bones for later use. Cover the top with cold boiled rice and set in a moderate oven for 30 minutes.

Rabbit Pot-Pie

Cook a good-sized rabbit until tender. Put the breast, leg and thigh pieces and meat from the neck and ribs in a buttered pan, season with salt, pepper and chopped onion; over the top put a biscuit dough crust made with one-fourth cornmeal and three-fourths wheat flour, instead of all wheat flour. Bake in a quick oven. Of the water in which the rabbit was boiled, make a gravy to be served with the pie.

Rabbit Biscuit

Remove the meat from the bones and press as you would veal for veal loaf. When cold and firm, slice about two-thirds of an inch thick, and cut these slices in pieces as large as a good-sized domino. Roll out biscuit dough, cutting into pieces a little larger than the rabbit and half as thick. Between two pieces of the dough put one piece of the pressed rabbit meat, press lightly to hold in place and bake in a moderate oven. Serve with a gravy made from the liquor in which the rabbit was cooked. — Mrs. L. M. Thornton, Tioga Co., N. Y.

DON'T STOP PAPER

I note that my subscription to your valued paper has expired. Don't ever stop it. I prize your paper highly. Continue it and send me the bill. I am enclosing my check for $1. Send the paper for as long as this will pay for it, and then bill me for more.—C. W. Ash, Coatesville, Pa.

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Nov. 26, 1917.

The embargo which has been in force against the shipments of potatoes and cabbage to this market for the past three weeks, as has been noted in these columns, has at last been raised, as the supplies of these commodities are again down to where they can readily be cared for. On Monday there were only 65 cars of potatoes in the Reading delivery yards and 28 cars in the Pennsylvania. But notwithstanding these comparatively light supplies, the market continues weak, especially on New York state stock, which is now selling at $1.70 to $2.20 per cwt. This is about 15 to 30 cents per cwt. lower than last week. Pennsylvania round stock is about steady at $2.20 to $2.60 per cwt. Eastern shore barrel stock continues to arrive at the rate of two to three cars daily, and selling mostly at $3 to $3.50 per barrel, with now and then a strictly fancy car at $3.75. Nearby stock has ruled steady with the normal supplies being hauled in for the time of the year, most sales averaging from 75 to 85 cents per basket, with an occasional lot up to 90 cents.

There has been a good steady market on New Jersey house sweet potatoes at 90 cents to $1.15 per ⅝-bushel basket. Southern sweet potatoes which have been arriving have been showing poor quality as a rule and consequently most prices have been low, ranging from $1 to $1.75 per barrel. When any good stock arrived it found a ready market at $2.20 per barrel. Some stock from Delaware in hampers has also been on the market, and when fancy sold up at $1.75 to $2 per hamper, but many were poor and sold from $1 to $1.25.

Vegetables

There has been an advance in the dried bean market during the past week. Heretofore dried beans have been quoted by the bushel, but as the U. S. Food Administration requests that dealers quote them by the hundredweight, we are changing our quotations to conform therewith. Marrows are selling at $15 to $15.50 per cwt; pea and medium, at $14.25@15; red kidneys, at $15. Winter beets from Pennsylvania and New Jersey points continue in light supply and sell quickly at $2.75 to $3 per barrel. Brussel sprouts continue steady at 14 to 16 cents per quart, with supplies moderate. Supplies of cabbage are again small enough so as to be well under control, and the market appears to be a little firmer on fancy fresh green Danish; best stock now selling up to $30 per ton, with poor grades from $25 up. Domestic cabbage is about done with for this season, and what little that is here is showing age. In order to clean up it is being sold from $15 to $20 per ton, mostly $18 to $19.

Cauliflower continues in very liberal supply and the market has been ruling weak. While some sales last week were made as low as $1.40 per crate, this was a little low, and most sales are now ranging from $1.50 to $1.60 per crate. Celery is showing some improvement, under an active demand, and good bunched stock is selling all the way from 30 to 65 cents per bunch, with an occasional sale of strictly fancy up to 85 cents. Egg plants continue in light supply and rule firm at $3 to $4.50 per crate. Horseradish continues steady at $4.50 to $8 per barrel. Mushrooms continue firm and active when fancy at 40 to 50 cents per pound. Onions rule very dull, as the demand seems to be very indifferent. Supplies on hand have been reduced considerably but there seems to be no life to trading. Yellow onions are selling at $2.50 to $2.75 per sack, and reds from $2 to $2.40. Some white boilers sold up to $4 per sack. Parsnips have advanced a little during the past week, and are now selling at 55 to 70 cents per ⅝ bushel basket. Pumpkins continue plentiful and unchanged at $3 to $9 per 100. Scullions are in fair supply and steady at $1.25 to $1.50 per hundred. New Jersey spinach is meeting a good demand when fancy at 50 cents per basket with some poor spinach selling as low as 25 cents per basket. Pennsylvania yellow turnips continue very scarce and bring high prices, ranging from 80 to 90 cents per basket. White turnips are plentiful and weak at 25 to 40 cents per basket. Rutabagas have increased in supply almost every day during the past week, and prices have steadily declined until now they are selling at 90 cents to $1.25 per cwt. Watercress is in fair supply and demand at $1 to $2 per hundred bunches.

Fruits

The apple market started in this week in very good shape. There were only 21 cars of apples offered at the market house depot on Monday morning, which is very light for Thanksgiving week. There was a very good percentage of fancy fruit in the supplies which met a very active market and good prices prevailed. Ordinary to good fruit also moved out freely, with values probably a shade firmer. Prices on various varieties ranged as follows: Baldwins, $3 to $5.25; Ben Davis, $2.75 to $4; Black Bens, $3 to $4.50; Black Twigs, $3 to $4; Greenings, $3.50 to $6; Hubbardsons, $4 to $5.50; Starks, $3 to $4.50; Spys, $3.50@5.50; Kings, $3.50@$6; Twenty Ounce, $4@5.50; Stayman Winesaps, $4 to $6.50; Snows, $3.50 to $5.50; Jonathans, $4 to $6.25; York Imperials, $3 to $5.25; Winesaps, $3 to $5.25. Western box apples continue active about as follows: Rome Beauty, $1.75 to $2.25; Jonathans, $1.50 to $2.25; Pearmain, $1.75 to $2.25; Winesaps, $2 to $2.40; Winter Banana, $2 to $2.75. Pears have been arriving quite freely for the past several days and the market seems to have about all they can handle, and the market is lower. Bartletts are now selling at 75 cents to $1.25 per bushel; Seckels, $2 to $2.50; Beurre Bose, $1.75 to $2; De Anjou, $1.25 to $1.50; Clarigeau, $1.25 to 1.50. Some Sheldons in barrels brought $8; Seckels in barrels sold at $5 to $7. Altho a few grapes are on the market yet, the season is practically closed and quotations are now mostly nominal. Cranberries met quite an active demand for Thanksgiving trade, but prices were changed at $9 to $12 per barrel, and $2.50 to $3.50 per crate. Chestnuts continue in light supply and firm at $6.50 to $8.50 per bushel.

Poultry

This being Thanksgiving week, the demand for all kinds of fancy dressed poultry was very active and the market ruled firm. Strictly fancy Turkeys found a ready market at 35 to 36 cents with a few extra fancy bringing still higher. Common and ordinary turkeys sold at 30 to 33 cents. Fancy heavy fowl ruled firm, cleaning up quickly at 25 to 27 cents, with an occasional lot higher. Small sizes ruled steady at 22 to 24 cents. Roasting chickens were in good demand at 22 to 27 cents. Old roosters brought 20 to 22 cents; broilers, 30 to 36 cents; ducks, 26 to 28 cents.

The live poultry market was also in good shape on fancy stock of all kinds, turkeys being the most active at 30 to 32 cents for best stock, with poorer bringing from 28 cents up. Fowls brought from 22 to 25 cents. Ducks, 21 to 24 cents. Guineas were in fair demand at 75 to 90 cents per pair. Pigeons sold all the way from 25 to 30 cents per pair.

Eggs

Fancy new-laid eggs continue in light supply and the market rules firm and active with prices practically on a basis with last week's advance. Near-by firsts sell quickly at 50 to 51 cents with current receipts bringing 49 to 50 cents. Eggs that have been well graded and candled and carefully selected are jobbing out all the way from 55 to 60 cents per dozen. Undergrade eggs seem to be fairly plentiful and move slowly at 42 to 45 cents per dozen.

LANCASTER PRODUCE

Lancaster, Pa., Nov. 26, 1917.

Lancaster County's turkey crop is so slim this year that few Thanksgiving dinner tables will be decorated with birds, and the visible supply for Christmas is negligible. Only one turkey was discovered on market today, and the few that appeared in butcher stores were imported from York County. They brought 40 cents a pound dressed. There was a great quantity of storage eggs dumped on the market today, and brought 55 and 60 cents a dozen. Demand for potatoes was slight.

Butter and Eggs.—Creamery butter, 52 @55c per lb; country butter, 50@55c; fresh eggs, 55@58c per dozen; storage eggs, 40 @45c.

Poultry.—Dressed old chickens, $1.25@ 1.50; dressed young chickens, 75c@$1; live chickens, $1.50@2 per pair; live old chickens, 18 cents per lb.

Vegetables and Fruits.—Lima beans, 18c pt; squash, 4@5c each; dry onions, 5@10c box; cauliflower, 15@20c head; eggplant, 15@30c each; cabbage, 2@8c head; sweet potatoes, 30c ½ pk; potatoes, $1.15@1.40 bu; 18@22c ½ pk; new turnips, 15c ½ pk; spinach, 5c ½ pk; parsnips, 5c box; pears, 20@25c ½ pk; apples, 20@30c ½ pk.

Grain Market.—Milling wheat, $2 bu; damp wheat, $1.80 bu; new ear corn, $1.15; rye, $1.65; oats, 65c; No. 1 timothy hay, $23 ton; clover hay, $18 ton; wheat straw, $12; oat straw, $10 ton.

YORK PRODUCE MARKET

York, Pa., Nov. 26, 1917.

There was but a small number of farmers and truckers at the markets this week. Buyers were also in small numbers. Dullness was the rule in all lines of produce.

Eggs.—53@55c per dozen.

Butter.—Country, 45@48c lb; separator, 50@52c. Milk 10c quart.

Poultry.—Demand light; hens, 18c lb; dressed, 60c@$1 each.

Vegetables.—Potatoes, 12@20c ½ pk; $1 to $1.40 per bu; few sales; cabbage, 3@ 10c head; lettuce, 5@10c head; beets, 3c bunch; radishes, 6c bunch; onions, 12c box; 25@30c ½ pk; lima beans, 30 quart; soup beans, 38@40c quart; celery, 5@10c stalk; tomatoes, 10c box; turnips, 20@25c ½ pk; egg-plants, 3@8c each; corn meal, 10@12c quart.

Fruit.—Apples, 12@35c ½ pk; pears, 3 @10c box; 15c ½ pk.

Retail Grain Market.—Wheat, $2.15; corn, $2.20; oats, 90c; rye, $1.90; bran, $2.10 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $2.07; corn, $1.60; rye, $1.40; oats 70c; bran, $34.50@38 ton; middlings, $50@58 ton

NEW YORK PRODUCE

New York City, Nov. 26, 1917.

Butter firm; receipts light. Cheese market is steady and firm. Demand for fresh eggs is greater than the supply. Dressed poultry in light supply. Fresh turkeys scarce and higher. Apples firmer. Potatoes easy. Onions steady.

Butter.—Creamery, extras (92 score), per pound, 47c; higher score, 47½@48c; thirds to firsts, 38@46c; state dairy, 35@46c; ladles, 31@34c.

Cheese.—Flats, specials, 24@24½c; do., colored, 23½c; prime, 22½@23c.

Eggs. — Fresh gathered extras, 57@58c; extra firsts, 52@53c; nearby white, fine to fancy, 72@76c; ordinary to good, 60@70c; browns, 58@62c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 38@40c; old roosters, 20c; squabs, $2.75@6.50 per dozen. Spring ducks, per lb., 25@28c; turkeys, fresh killed, 37c.

Vegetables and Greens.—Beets, bbl., $2.50 @3. Onions, per 100-lb. bag, $2.25@3. Potatoes, Jersey, $2.75@3.25 bbl; state and western, $2.50@4.25 per bbl. Carrots, $1.75 @2.25 bbl.

Apples.—Wealthy, $3.50@5 bbl; McIntosh, $4@7; Jonathan, $4@6.50; York Imperial, $4@5; Twenty Ounce, $3.50@5.50; King, $4@5.50; Baldwin, $3.50@4.50.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., Nov. 26, 1917.

The receipts of cattle for today's market were 102 cars as compared with 140 cars last Monday. Today's supply was the lightest for a Monday since early in July, and today's market was the highest for all kinds of cattle ever known in the history of the Lancaster Stock Yards. The receipts came from Virginia, 32 cars; Chicago, 29; Buffalo, 22; Pittsburgh, 8; N. Y. State, 5; Indianapolis, 3; Maryland, 2; Pittsburgh, 1.

The attendance of buyers was fair, and at the close a good clearance had been effected. Sellers were compelled to ask from 25 to 50 cents more for everything they had to sell over last week's prices, and the light supply helped them to get it. One of the features of the day's trading was the sale of a car of strictly good Canadian beef cattle. They were purebred Shorthorns, weighed 1,347 lbs. average, and sold for shipment to New York at the record-breaking price in this market of $15.80. One carload of steers weighing 1,240 lbs. that had been grazed in Maryland, sold at $13.10, and 3 cars of Virginia grazed steers sold at $13.05.

Some of the representative sales of cattle for butchers' uses were as follows: A car of pretty handy Virginia killers weighing 1,120 lbs. at $12.50. One car of Virginias weighing 1,189 at $12.40. One car of rather rough fat Canadians weighing 1,258 sold at $12. There were a great many sales of a plain kind of killers weighing 550 to 1,050 made at $10.50 to $11.50. A fair kind of heifers weighing 550 to 930 lbs. sold at $9.75 to $10.25. A rather plain kind weighing 750 to 800 lbs. sold at $8.25 to $9. Anything in the shape of Virginia oxen with any kill to it, met with a strong demand. Some oxen that the trace called fair, sold at $9 to $10. A plain kind sold from $7.50 to $8.50. Good cows for slaughtering purposes were scarce. The few that were on sale changed hands at $8.75 to $9.50. A fair kind sold at $7.75 to $8.75. Cutters went at $6 to $6.75, and bolognas at $4.25 to $5.

The supply of stockers and feeders was light, particularly stockers. Belated buyers for both these kinds strove in vain to get them at the prices of two weeks ago. Today it was the case of pay the price, or go without the goods. The best feeders on sale came from Western markets. Some of the representative sales were as follows: One bunch of 24 head of high grade feeders that came from Chicago weighed 1,203 lbs. and sold at $12.75. Another bunch of 20 head of Chicago feeders averaging 1,225 lbs. went to a Lebanon County farmer at $12.50. Another bunch of 22 head of Chicago feeders that were just a little better than fair, weighing 1,050 lbs., sold at $11.50. Another bunch of 20 head of the same grade went to a Chester County farmer at $11. A number of farmers who came from Maryland bought bunches of from 20 to 30 head each, averaging about 850 lbs. at $11 and one Maryland farmer bought 15 head of a pretty nice kind of Dakota steers, averaging 1,050 lbs. at $11.50. Several good sized bunches of a plain kind weighing 950 lbs. were made at $10.40 to $10.85, and a number of lots of the same grade weighing 890 lbs. sold at $10 to $10.25.

Stock bulls were scarce. One carload that was only a fair grade sold at $8.25, and a few small bunches of a kind that the trade called "good", went at $8.75 to $9.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., Nov. 26, 1917.

Beef Cattle.—There was a better feeling in the market and prices were firmly maintained, with demand sufficient to keep the offerings of desirable stock pretty well cleaned up.

Steers, best, $12.50@14; fair to good, $11 @12.50; common, $9.50@11; bulls, $6.25@ 8.50; extra choice higher; cows, fat, per lb., 7½@8½c; extra choice higher; medium per lb., 6½@7½c; ordinary, per lb., 4½@5½c; calves, exceptional lots, $15.50; a few as high as $16; good to choice, $13@14.50; medium, $10@11.50; common, $7.50@8.50; Tennessee and southern, $7.50@13.

Hogs.—There was a fairly active demand and the market ruled firm, with offerings only moderate. Quotations for best western, $19 @19.50.

City Dressed Stock.—The general market ruled steady, with demand active.

Steers, 15@20c; heifers, 14@18c; cows, 10 @17c; calves, 21@22c; southern and barnyards, 16@18c; country dressed, 19c; do., extras, 20c; sheep, 21c; do., extras, 22c; lambs, 27c; do., extras, 28c; hogs, 25c.

PITTSBURGH LIVE STOCK

Pittsburgh, Pa., Nov. 26, 1917.

Cattle.—The supply on sale Monday was 100 loads compared with 160 loads the week before. With the light supply on sale and a good attendance of buyers present the market ruled active and generally 25c per cwt. higher on all grades. Heifers in fair supply and market ruled active at about the same advance as steers. Cows sold stronger on bologna and choice heavy, while medium grades were steady. Bulls higher on all grades. Best fresh cows steady, springs slow. Today's cattle supply was 105 loads. The demand was fair, and market fairly active generally, and strong to higher on desirable grades.

Good to choice	$12.75@13.50
Good, 1300-1400 lb.	12.35@12.75
Medium to good, 1200-1300 lb.	10.75@11.75
Common, 700-900 lb.	6.00@ 7.00
Heifers, 700-1100 lb.	6.00@10.00
Bologna cows	4.75@5.75
Fresh cows and springers	$25@110

Calves.—Receipts of calves light and market ruled steady all week. Today's receipts of calves were 500 head. Market ruled steady.

Veal calves	$11.00@15.00
Heavy and thin calves	5.00@10.50

Hogs.—The supply of hogs has been liberal all week and with a good demand the market ruled steady to strong all week. Today's hog receipts were 100 double-deck loads. Market ruled lower on all grades.

Prime heavies	$17.75@
Best heavy Yorkers	17.40@
Good pigs	17.20@17.25

Sheep and Lambs.—The supply of sheep and lambs has been light and sheep ruled steady at Monday's prices, while lambs were in very good demand and closed 75 cents per cwt. above Monday's prices. Today's receipts were 12 double-deck loads. Market fairly active at steady prices.

Prime wethers (95 to 100 lb.)	$11.25@11.75
Good mixed	10.25@11.00
Fair mixed ewes and wethers	9.00@10.00
Spring lambs	12.00@17.50

NEW YORK HAY AND GRAIN

New York City, Nov. 26, 1917.

Feed.—A higher level was quoted for city qualities yesterday, but Western was unsettled and it was apparent that slight concessions were available. However, in comparison with the recent gains established the setback was trifling. The demand was reported good at all mill centers, but producers are understood to be sold ahead to the Government limit. Some hope is held out that by the proposed rules transportation facilities will be improved, and that deliveries, particularly to Eastern consumers, can be put thru on a better basis. Quoted: Western spring in 100-pound sacks, $42; standard middlings, $43.50; flour in 100-pound sacks to arrive, $52; red dog to arrive in 100-pound sacks, $62.50. City feed, bulk bran, $41; 100-pound sacks, $42; heavy feed, $45; 100-pound sacks, $46; red dog, $64; flour, $63. Linseed oil meal, $55 per ton.

Hay and Straw.—More hay is being unloaded at 33d street, and buyers are bidding lower prices today. Holders slow to cut recent asking prices, but some business at lower figures than lately quoted, especially on lower grades.

Hay.—No. 1 timothy, $34; No. 2, $31@ 33; Fancy light clover, $31@33; mixed, $26@28.

Wheat.—No. 2 red, $2.25.

Corn —No. 2 yellow, new, $1.95.

Oats.—No. 2, 79½c.

Rye.—$1.89.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Nov. 26, 1917.

Baled Hay and Straw.—Receipts, 900 tons of hay and 4 cars of straw. The hay market ruled firm under a good demand. While receipts were more liberal, offerings on the spot were only moderate and kept pretty well cleaned up. Straw sold fairly and ruled firm under small supplies.

Timothy hay, according to location: No. 1 large bales, $27.50@28; No. 1 small bales, $27.50@28; No. 2, $26@26.50; No. 3, $23@ 24.50. Clover mixed hay: Light mixed, $26 @26.50; No. 1, do., $25@25.50; No. 2, do., $22@23.

Bran.—Trade was quiet, but supplies were small and the market ruled firm and higher. Quotations (car lots, including sacks):

Wheat.—No. 2, red, $2.25.

Corn.—Normal.

Oats.—No. 2, 78@78½c; standard white, 77½@78c.

Rye.—Nearby, as to quality, $1.73@1.78.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Nov. 26, 1917.

Butter.—The market for high-grade solid-packed creamery ruled firm at the late advance, with demand readily absorbing the limited offerings. Medium grades were pretty well cleaned up, but lower. Unattractive butter was slow of sale and irregular in value. Fancy prints were scarce and firm, with demand fairly active, but medium poor qualities were quiet and weak.

Western, fresh, solid-packed creamery, extra, 46c; higher scoring goods, 47@48c; extra firsts, 45@45½c; firsts, 44@44½c; seconds, 41@42c; sweet creamery, extra, 47c; undergrades, 44@46c; nearby prints, fancy, 50c; average, extra, 47@49c; firsts, 45@ 46c; seconds, 41@43c; special fancy brands of prints were jobbing at 53@56c.

Cheese.—The market ruled firm on desirable stock, but demand was only moderate. New York, full cream, fancy, June, 25½c; specials higher; do., fresh made, best, 23¼ @23½c; do., fair to good, 22½@23c.

NEW YORK MILK MARKET

New York City, Nov. 26, 1917.

Supply and demand are well balanced. The tendency is toward a shortage. This condition is expected to continue for about two weeks. If the market follows the course of other years, there will be a falling off in demand just before Christmas. The conditions ruling in the market are so different this year from those ever experienced here before that one can prophesy nothing. A Federal Milk Commission has been appointed by Herbert C. Hoover, Food Administrator, to study the problems of production and distribution with a view to establishing rates to producers and consumers based on cost plus a reasonable profit. It includes representatives of the Federal and State Food Commissions, the New York Board of Health, producers, distributors and consumers. It will take up its duties immediately in order to be able to report before January 1.

The Dairymen's League rates for November for Grade B (barn score 55) to the producer in the first district are as follows: $3.34 a hundred for 3 percent milk; $3.55, or approximately 7½ cents a quart, for 3.6 percent; and $3.69 for 4 percent. Receipts of milk and cream in 40 quart cans for week ending November 24, were as follows:

Railroad	Milk	Cream
Erie	41,202	1,460
Susquehanna	4,897	37
West Shore	9,440	870
Lackawanna	54,690	1,475
N. Y. Central (long haul) including Rutland	107,737	1,813
Ontario	32,916	1,638
Lehigh Valley	39,760	440
New Haven	3,645	
Pennsylvania	7,940	85
Other sources	5,620	160
Totals	307,847	7,978
Same week last year	323,498	7,602

TOBACCO MARKET

Unlike most northern tobacco growing localities, the Pennsylvania section has shown its hand with reference to prices. The sale of the crop is now well under way and to some extent it is a very good time to get into the band wagon. A large percentage of the product has been sold and at prices even higher than was expected. It is said that buyers are so numerous that if several are allowed to pass it makes little difference, as there are always more to follow. All interests, large and small, are in the field. The big factories are apparently buying almost everything in their way; the small factories are equally busy and even the speculators are not afraid of the situation as shown by their presence in the field. The latter have paid prices which seem to preclude speculation, ranging as high as $26 per cwt. The most inferior offering was salable at $15 per cwt; and badly hail cut and otherwise damaged product commanded $18 to $22. Prices ranging all the way up to $30 per cwt. were reported and there are those who would not accept even this figure. Stripping has actively commenced and the coming of favorable casing weather and a little more freedom from other duties will see the operation pushed to the limit. This operation tends to increase the estimate of the quality of the product which is conceded to be much better than usual. There is an unusual freedom from pole burn but the prevailing cold weather during the curing season was somewhat unfavorable to color and texture.—H. E. Tweed, Nov. 26, 1917.

NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

SYNOPSIS OF PREVIOUS CHAPTERS

Henry de Spain is the new General Manager of the stage line running between the rich mines of the Spanish Sinks and the town of Sleepy Cat. He immediately gets in trouble with members of what is known as Morgan's gang whose headquarters are at Morgan's Gap. One of the Morgan followers, Sassoon, assaults one of the stage drivers, and is arrested by de Spain. The Morgans take this as an affront on their power, and set out to "get" de Spain. In the meantime, de Spain falls in love with Nan Morgan, niece of the "gang" leader. While the Morgans are trying to find ways of putting him out of the country, de Spain is trying to find ways of currying favor with Nan. Going to the Calabasas Inn to have a lunch prepared for Nan when she comes on the stage, de Spain is trapped by the leaders of the Morgan gang. Pitted against four men he succeeds in disabling three and gets out thru a window and onto a horse. Wounded and exhausted, he lets the horse go as he will. The railroad men search the country for him but at the end of a week he is not found.

CHAPTER XII

On Music Mountain

De Spain, when he climbed into Sassoon's saddle, was losing sight and consciousness. He knew he could no longer defend himself, and was so faint that only the determination of putting distance between him and any pursuers held him to the horse after he spurred away. With the instinct of the hunted, he fumbled with his right hand for his means of defense, and was relieved to find his revolver, after his panicky dash for safety, safe in its place. He put his hand to his belt for fresh cartridges. The belt was gone. The discovery sent a shock thru his failing faculties. He could not recollect why he had no belt. Believing his senses tricked him, he felt again and again for it before he would believe it was not buckled somewhere about him. But it was gone, and he stuck back in his waistband his useless revolver. One hope remained—flight, and he spurred his horse cruelly.

Blood running continually into his eyes from the wound in his head made him think his eyes were gone, and direction was a thing quite beyond his power to compass. He made little effort to guide, and his infuriated horse flew along as if winged.

A warm, sticky feeling in his right boot warned him, when he tried to make some mental inventory of his condition, of at least one other wound. But he found he could inventory nothing, recollect next to nothing, and all that he wanted to do was to escape. More than once he tried to look behind, and he dashed his hand across his red forehead. He could not see twenty feet ahead or behind him. Even when he hurriedly wiped the cloud from his eyes his vision seemed to have failed, and he could only cling to his horse to put the miles as fast as possible between himself and more of the Morgans.

A perceptible weakness presently forced him to realize he must look to his wounded foot. This he did without slackening speed. The sight of it and the feeling inside his torn and blood-soaked boot was not reassuring, but he rode on, sparing neither his horse nor his exhaustion. It was only when spells of dizziness, recurring with frequency, warned him he could not keep the saddle much longer, that he attempted to dismount to stanch the drip of blood from his stirrup.

Before he slackened speed he tried to look behind to reconnoitre. With relief he perceived his sight to be a trifle better, and in scanning the horizon he could discover no pursuers. Choosing a secluded spot, he dismounted, cut open his boot, and found that a bullet, passing downward, had torn an artery under the arch of the foot. Making a rude tourniquet, he succeeded in checking pretty well the spurting flow that was sapping his strength. After he had adjusted the bandage he stood up and looked at it. Then he drew his revolver again and broke it. He found five empty shells in the chambers and threw them away. The last cartridge had not been fired. He could not even figure out how he had happened to have six cartridges in the cylinder, for he rarely loaded more than five. Indeed, it was his fixed habit—to avoid accidents—never to carry a cartridge under the hammer of his gun—yet now there had been one. Without trying to explain the circumstance, he took fresh stock of his chances and began to wonder whether he might yet escape and live.

He climbed again into the saddle, and, riding to a ridge, looked carefully over the desert. It was with an effort that he could steady himself and the extent of his weakness surprised him. What further perplexed him as he crossed a long divide, got another good view and saw no pursuit threatening in any direction, was to identify the country he was in. The only landmark anywhere in sight that he could recognize was Music Mountain. This now lay to the northwest, and he knew he must be a long way from any country with which he was familiar. But there was no gainsaying, even in his confused condition, Music Mountain. After looking at it a long time he headed with some hesitation cautiously toward it, with intent to intercept the first trail to the northeast. This would take him toward Sleepy Cat.

As his eyes continued to sweep the horizon he noted that the sun was down and it was growing dark. This brought a relief and a difficulty. It left him less in fear of molestation, but made it harder for him to reach a known trail. The horse, in spite of the long, hard ride seemed fresh yet, and de Spain, with one cartridge, would still have laughed at his difficulties had he not realized, with uneasiness, that his head was becoming very light. Recurring intervals of giddiness foreshadowed a new danger in his uncharted ride. It became again a problem for him to keep his seat in the saddle. He was aware at intervals that he was steadying himself like a drunken man. His efforts to guide the horse only bewildered the beast, and the two travelled on maudlin curves and doubled back on their track until de Spain decided that his sole chance of reaching any known trail was to let go and give the horse his head.

A starless night fell across the desert. With danger of pursuit practically ended, and only a chance encounter to fear, de Spain tried to help himself by walking the horse and resting his bleeding foot in front of the pommel, letting the pony pick his way as he chose. A period of unconsciousness, a blank in de Spain's mind, soon followed the slowing up. He came to himself as he was lurching out the saddle. Pulling himself together, he put the wet foot in the stirrup again and clung to the pommel with his hands. How long he rode in this way, or how far, he never knew. He was roused to consciousness by the unaccustomed sound of running water underneath his horse's feet.

It was pitch dark everywhere. The horse after the hard experience of the evening was drinking a welcome draft. De Spain had no conception of where he could be, but the stream told him he had somehow reached the range, tho Music Mountain itself had been swallowed up in the night. A sudden and uncontrollable thirst seized the wounded man. He could hear the water falling over the stones and climbed slowly and painfully out of the saddle to the ground. With the lines in his left hand he crawled toward the water and, lying flat on the ground beside the horse, put his head down to drink. The horse, meantime, satisfied, lifted his head with a gulp, rinsed his mouth, and pulled backward. The lines slipped from de Spain's hand. Alarmed, the weakened man scrambled after them. The horse startled, shied and before his rider could get to his feet scampered off in a trot. While de Spain listened in consternation, the escaped horse, falling into an easy stride, galloped away into the night.

Stunned by this new misfortune, and listening gloomily to the retreating hoof-beats, de Spain pondered the situation in which the disaster left him. It was the worst possible blow that could have fallen, but fallen it had, and he turned with such philosophy as he could to complete the drink of water that had probably cost him his life. At least, cold water never tasted sweeter, never was so grateful to his parched tongue, and since the price of the draft might be measured by life itself, he drank extravagantly, stopping at times to rest and, after breathing deeply, to drink again.

When he had slaked a seemingly unquenchable craving, he dashed the running water, first with one hand and then the other, over his face. He tried feebly to wash away some of the alkali that had crusted over the wound in the front of his head and was stinging and burning in it. There was now nothing to do but to secrete himself until daylight and wait until help should reach him—it was manifestly impossible for him to seek it.

Meantime, the little stream beside him offered first aid. He tried it with his foot and found it slight and shallow, albeit with a rocky bed that made wading in his condition difficult. But he felt so much better he was able to attempt this, and, keeping near to one side of the current, he began to follow it slowly upstream. The ascent was at times precipitous, which pleased him, tho it depleted his new strength. It was easy in this way to hide his trail, and the higher and faster the stream took him into the mountains the safer he would be from any Calabasas pursuers. When he had regained a little strength and oriented himself, he could quickly get down into the hills.

Animated by these thoughts, he held his way up-stream, hoping at every step to reach the gorge from which the flow issued. He would have known this by the sound of the falling water, but, weakening soon, he found he must abandon hope of getting up to it. However, by resting and scrambling up the rocks, he kept on longer than he would have believed possible. Encountering at length, as he struggled upward, a ledge and a clump of bushes, he crawled weakly on hands and knees into it, too spent to struggle farther, stretched himself on the flattened brambles and sank into a heavy sleep.

He woke in broad daylight. Consciousness returned slowly and he raised himself with pain from his rough couch. His wounds were stiff, and he lay for a long time on his back looking up at the sky. At length he dragged himself to an open space near where he had slept and looked about. He appeared to be near the foot of a mountain quite strange to him, and in rather an exposed place. The shelter that had served him for the night proved worthless in daylight and, following his strongly developed instinct of self-preservation, de Spain started once more up the rocky path of the stream. He clambered a hundred feet above where he had slept before he found a hiding-place. It was at the foot of a tiny waterfall where the brook, striking a ledge of granite, had patiently hollowed out a shallow pool. Beside this a great mass of frost-bitten rock had fallen, and one of the bowlders lay tilted in such a way as to roof in a sort of cave, the entrance to which was not higher than a man's knee. De Spain crawled into this refuge. He conceived that from this high, open ledge he could show a small signal-fire at night, and if it were answered by his enemies he had a semblance of a retreat under the fallen rock, a hunting-knife, and one lone cartridge with which to protect himself. A mountain-lion might have to be reckoned with; and if a pursuer should follow him under the rock his only chance would lie in getting hold, after a fight, of the man's loaded revolver or ammunition-belt. Such a hope involved a great deal of confidence, but de Spain was an optimist—most railroad men are.

The outlook was, in truth, not altogether cheerful—some would have called it, for a wounded man, desperate—but it had some slight consolations and de Spain was not given to long-range forebodings. The rising sun shone in a glory of clearness, and the cool night air rolling up the mountain was grateful and refreshing. Lying flat on the rock, he stretched his head forward and drank deeply of the ice-cold pool beside which he lay. The violent exertion of reaching the hight had started the ruptured artery anew, and his first work was crudely to cleanse the wound and attempt to rebandage it. He was hungry, but for this there was only one alleviation — sleep — and, carefully effacing all traces of his presence on the ledge, he crawled into his rock retreat and fell again into a heavy slumber.

It was this repose that proved his undoing. He woke to unconsciousness so weak he could scarcely lift

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his head. It was still day. A consuming thirst assailed him, but he lacked the strength to crawl out of his cave, and, looking toward his bandaged foot, he was shocked at the sight of how it had bled while he slept. When he could rally from his discouragement he rewound the bandages and told himself what a fool he had been to drag his foot up the rocks before the wound had had any chance to heal. He resolved, despite his thirst, to lie still all day and give the artery absolute quiet. It required only a little stoicism; the stake was life.

Toward afternoon his restlessness increased, but he clung to his resolve to lie still. By evening he was burning with thirst, and when morning came after a feverish night, with his head on fire and his mouth crusted dry, he concluded rightly that one or both of his wounds had become infected.

De Spain understood what it meant. He looked regretfully at the injured foot. Swollen out of shape and angry-looking, the mere appearance would have told him, had the confirmation been needed, that his situation was becoming critical. This did not so much disconcert him as it surprised him and spurred him mentally to the necessity of new measures. He lay a long time thinking. Against the infection he could do little. But the one aid at his hand was abundance of cold water to drink and bathe his wound in, and to this he resolved now to drag himself. To crawl across the space that separated him from the pool required all the strength he could summon. The sun was already well up and its rays shot like spectrum arrows thru the spray of the dainty cataract, which spurted in a jewelled sheet over a rocky ledge twenty feet above and poured noisily down from the broad pool along jagged bowlders below.

Crawling, choking with thirst, slowly forward, he reached the water, and, reclining on his side and one elbow, he was about to lean down to drink when he suddenly felt, with some kind of an instinctive shock, that he was no longer alone on the ledge. He had no interest in analyzing the conviction; he did not even question it. Not a sound had reached his ears. Only a moment before he had looked carefully all around. But the field of his vision was closely circumscribed by the walls about him. It was easy for an invader to come on his retreat unawares — at all events, somebody, he was almost sure, stood behind him. The silence meant an enemy. The first thing to expect was a bullet. It would probably be aimed at the back of his head.

And it was this thought that cost the defenseless man at the moment the most pain—that feeling, in advance, of the blow of the bullet that should snuff out his life. Defense was out of the question; he was as helpless as a baby. An impulse in his fingers to clutch his revolver he restrained at once — it could only hasten his death. He wondered, as the seconds passed, why his executioner hesitated to shoot, but he could not rid himself of the mental horror of being shot in the base of the brain. Anywhere else he would have almost welcomed a bullet; anywhere else it might have given him one chance for life thru rolling over after he was struck in an attempt to kill assailant.

His thoughts, working in flashes of lightning, suggested every possible trick of escape, and as rapidly rejected each. There was nothing for it but to play the part, to take the blow with no more than a quiver when it came. He had once seen a man shot in just that way. Braced to such a determination, de Spain bent slowly downward, and, with eyes staring into the water for a reflection that might afford a glimpse of his enemy, he began to drink. A splash above his head frightened him almost to death. It was a waterousel dashing into the foaming cataract and out again, and the spray falling from the sudden bath wrecked the mirror of the pool. De Spain nearly choked. Each mouthful of water was a struggle. The sense of impending death had robbed even the life-giving drafts of their tonic; each instant carried its acute sensation of being the last. At length, his nerves, weakened by hunger and exposure, revolted under the strain. Suppose it should be, after all, a fantasy of his fever that pictured so vividly an enemy behind. With an effort that cost more mental torture than he ever had known, he drew back on his elbow from the pool, steadied himself, turned his head to face his executioner, and confronted Nan Morgan.

CHAPTER XIII

Parley

She stood beside the rock from which the ledge was reached from below, and as if she had just stepped up into sight. Her rifle was so held in both hands that it could be fired from her hip, and at such close quarters with deadly accuracy. As she stood with startled eyes fixed on his haggard face, her slender neck and poised head were very familiar to de Spain.

And her expression, while it reflected her horrified alarm, did not conceal her anger and aversion at the sight of him. Unaware of the forbidding spectacle he presented, de Spain, swept by a brainstorm at the appearance of this Morgan—the only one of all the Morgans he had not fancied covering him and waiting to deliver his death-warrant—felt a fury sweep over him at the thought of being shot by a woman. The wild idea that she meant to kill him, which in a rational moment would never have entered his mind, now in his delirium completely obsessed him. Working, as it were, mechanically, even the instinct of self-defense asserted itself against her. But enough of reason remained in his disordered senses to tell him that self-defense was out of the question. Whatever she meant to do, he could no more fire at this girl, even had he a chance —and he realized he was at her mercy—than he could at his sister; and he lay with his eyes bent on hers, trying to read her purpose.

She stood guarded, but motionless with surprise. De Spain turned himself slowly and, sitting up, waited for her to speak. There was little to hope for, he thought, in her expression. And all of his duplicity seemed to desert him before her cold resolution. The tricks he would have tried, at bay before a man, he felt no inclination to attempt. He read in her face only abhorrence and condemnation, and felt in no way moved to argue her verdict. "I suppose," he said, at length, not trying to disguise his bitter resentment of her presence, "you've come to finish me."

His shirt stained and tattered for bandages, his hair matted in blood on his forehead, his eyes inflamed and sunken, his lips crusted and swollen, the birthmark fastened vividly on his cheek made him a desperate sight. Regarding him steadily, Nan, as bewildered as if she had suddenly come on a great wounded beast of prey still dangerous, made no response to his words. The two stared at each other defiantly and for another moment in silence. "If you are going to kill me," he continued, looking into her eyes without any thought of appeal, "do it quick."

Something in his long, unyielding gaze impelled her to break the spell of it. "What are you doing here?" she demanded with anger, curbing her voice to control her excitement as best she could.

De Spain, still looking at her, answered only after a pause. "Hiding," he said harshly.

"Hiding to kill other men!" Nan's accusation as she clutched her rifle was almost explosive.

He regarded her coolly, and with the interval he had had for thinking, his wits were clearing. "Do I look like a man hunting for a fight? Or," he added, since she made no answer, "like a man hunting for a quiet spot to die in? How," he went on slowly, delirium giving place to indignation, "can you say I'm hiding here to kill other men? That's what your people tell you, is it?"

"I know you are a murderer."

In spite of his weakness he flushed. "No," he exclaimed sharply, "I'm not a murderer. If you think it"—he pointed contemptuously to her side —"you have your rifle—use it!"

"My rifle is to defend myself with. I am not a public executioner," she answered scornfully.

"You need no rifle to defend yourself from me—tho I am a murderer. And if you're not a public executioner, leave me — I'm dying fast enough."

"You came here to hide to kill somebody!" she exclaimed, as if the thought were a sudden explanation.

"What do you mean by 'here'? I might better ask why you came here," he retorted. "I don't know where I am. Do I look as if I came here by choice?" He paused. "Listen," he said, quite master of himself, "I'll tell you why I came. I shall never get away alive, anyway—you can have the truth if you want it. I got off my horse in the night to get a drink. He bolted. I couldn't walk. I climbed up here to hide until my wounds heal. Now, I've told you the truth. Where am I?"

The grip of her hands on the rifle might have relaxed somewhat, but she saw his deadly revolver in its accustomed place and did not mean to surrender her command of him. Nor would she tell him where he was. She parried his questions. He could get no information of any sort out of her. Yet he saw that something more than his mere presence detained and perplexed her. Her prompt condemnation of him rankled in his mind and the strain of facing her suspicion wore on him. "I won't ask you anything more," he said at length. "You do right to give me no information. It might help me save my life. I can't talk any longer. You know you think I've no right to live—that's what you think, isn't it? Why don't you shoot?" She only stared at him. "Why don't you answer?" he demanded recklessly.

Nan summoned her resolution. "I know you tried to kill my cousin," she said hotly, after he had taunted her once more. "And I don't know you won't try it again as soon as you are able. And I am going to think what to do before I tell you anything or do anything."

(To be continued.)

The Farm Boy Soldier and The Army Y. M. C. A.

There is no way in which the folks back on the farm can do so much for the soldiers as by supporting the great work which the Y. M. C. A. is doing for him. Uncle Sam feeds him, clothes him, drills and equips him and trains him. Except by sending our boys parcels of food, tobacco, sweaters and so on, we cannot do much to improve his daily life. That is out of our hands. But the Y. M. C. A. has undertaken the great task of amusing and improving the soldier's spare hours, and in all the branches of its wonderful organization is doing a wonderfully helpful work. By contributing to that work we are helping our own boys just as surely as if we were standing by their side.

"I am attending a French class that is gotten up by the Y. M. C. A." writes one "Sammy" in France to his mother. "Mother, you can't realize how much good the Y. M. C. A. is doing over here. I really think it is the greatest organization of its kind in the world. What a comfort it is to the men, for they are supplied with plenty to read and games of all kinds. It also secures some of the best talent the country affords which makes time pass very delightfully, considering everything. So you can't sing my praises at home too loudly in behalf of the good old Y. M. C. A."

The greatest difficulty the farm boy in the army has to overcome is idleness. His work is severe and exacting but none the less there are many vacant hours; and once the strain is lessened, he turns inevitably to recreation of some sort. If there are no wholesome pleasures at hand, he will seek unwholesome ones. This problem is severe enough in every big army encampment, but in France, by reason of different moral standards, and the intense gladness of the people to see our men, the matter is exceedingly acute. Many clean, fine country lads are being brought face to face with temptations they rarely, if ever, encountered at home; wine and women.

"The Y. M. C. A. has saved many men from drunkenness, and if they did not have somewhere to go, they would have gone to town and gotten drunk," writes a farmer boy in a cantonment camp in Texas. "All we have here are two or three adobe shacks where some Mexicans live. If it were not for the 'Y', I believe some of the men would nearly go crazy."

Many American soldiers have been put completely out of fighting condition by "the battle of Paris", long before they met the enemy. We dare not blink this issue, which is so critical.

"The day I left home, my mother took me alone into the kitchen and put both her hands on my shoulders, saying: 'Son, let me look into your eyes. It breaks my heart to see you go. I'm not afraid of bullets or rigid military discipline. I'm proud to have my boy give his life for our country, but I fear most the awful moral conditions. Can you come back, if God permits you to return, as clean as you are now?" This was the parting of an American farm boy from his mother not many months ago. Since that time he has gone to France and this is what he despairingly told a Y. M. C. A. secretary in a hut, frantically clutching the secretary's arm as he did so: "I'm standing alone against this squad and must have help soon or I'll fall sure. I can't stand the spirit of that bunch, nor listen to its conversation and keep clean much longer. Every one of them is older, some twice as old, and they have secretly planned among themselves to get me to the house of a harlot 'to make a man of me.' My God! Can't you fellows help me in this crisis?"

The Y. M. C. A. did help this boy, and he went back to his tent with a Testament in his pocket, which he read each night, despite the jeers and actual blows of his companions, and the result was that before the month was over, the whole squad had cleaned up and this young man was the most respected member of the bunch.

If a man has baseball, football, music, writing paper, reading matter, and other good home comforts ready to his hand, he will not go hunting for more dangerous pastimes. The Y. M. C. A. is following our men wherever they go, whether they are soldiers or sailors, providing athletic equipment, comfortable buildings or tents to serve as club houses, and in large cities is operating hotels where men may get food and clean accommodation at a minimum cost.

The letters that your boy has written to you on the note paper of the Y. M. C. A. stamped with the red triangle emblem of the Association, will have told you a great deal about the work.

What a Farmer Boy Thinks of the Army Y. M. C. A.

An Ohio farmer boy in one of the big draft cantonments came up to the Y. M. C. A. man who was behind the counter in one of the big Association buildings. He was a fine, clean-cut, good looking fellow, evidently accustomed to a quiet, refined home life. In his closed fist he held some concealed object.

Apparently he was not familiar with the Y. M. C. A. as an institution, for he said, "How does this company get along without funds? How can you afford to do all this sort of thing for the boys?" He pointed to the big rest room, where a hundred men were writing letters, others playing games.

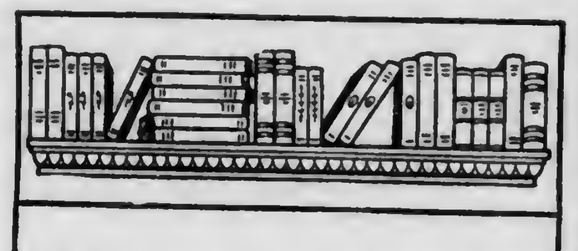
"It's all done by voluntary contributions," said the Y. M. C. A. man. "The folks back home who can't go themselves want to do everything they can to help out."

"Well, by Heaven, if they could see all this," said the boy from Ohio, "they'd sell the best furniture they have in the house rather than have this work stop. Why, we fellows couldn't live without it. And it makes me feel cheap to accept all this without giving anything in return. I want you to take this and do anything you can with it. Will you?" He opened his palm, and held out a fifty-cent piece. And it was all the Y. M. C. A. man could do to persuade him that it was not his duty, but the duty of those at home; to put money into the Y. M. C. A.

What a Canadian Farmer Thinks

The story of what the Y. M. C. A. is doing for the farm boys of Canada is so inspiring that it takes fire wherever it is told. In a little town in Western Canada, there was a poor cripple who for years had been supported at the public expense. He heard of the great things the Association had done to help the Canadian troops in France. He went to the local railway superintendent and asked for a temporary job. He was told to pick up the waste paper along the railway track and clean up the station yard. He was paid $1.50 for many hours of slow and painful work; he contributed the money to the Y. M. C. A. fund.

A Y. M. C. A. man, who had been invalided home from France, was in a small village in southern Alberta. On telling a little group of farmers round the grocery stove something of the Y. M. C. A. work, they got interested and called together a meeting in the Fire Hall. The audience was enthusiastic, and when the visitor left the next morning, he carried $1,200 with him. He had an hour to wait for his train and while he was sitting at the station, one of the natives pointed out to him a farmer who was driving at a tremendous rate behind a team of horses. "See that fellow there? Do you know what he is doing? He lives ten miles out, and he has twenty dollars at home which he wants to bring back to you before your train pulls out."



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MY MOTHER-IN-LAW

Who was it taught my wife to bake
A loaf of bread, or fancy cake,
And appetizing dishes make?
My Mother-in-law.

Who was it when my wife was ill,
Bestowed upon her care and skill,
And saved me from a nurse's bill?
My Mother-in-law.

Who, then, my little ones prepared
Each morn for school; who for them cared,
And all their little sorrows shared?
My Mother-in-law.

Who was it, when their prayers were said
So snugly tucked them into bed,
And, 'til they slept, beside them stayed?
My Mother-in-law.

Who of my clothing then took care;
Who over-looked my underwear,
And kept each garment in repair?
My Mother-in-law.

Who oft to me her aid has lent,
To buy the coal and pay the rent?
Who'd gladly see me President?
My Mother-in-law.

A loving grandmother is she;
A generous friend she's been to me;
Forever honored let her be—
My Mother-in-law.

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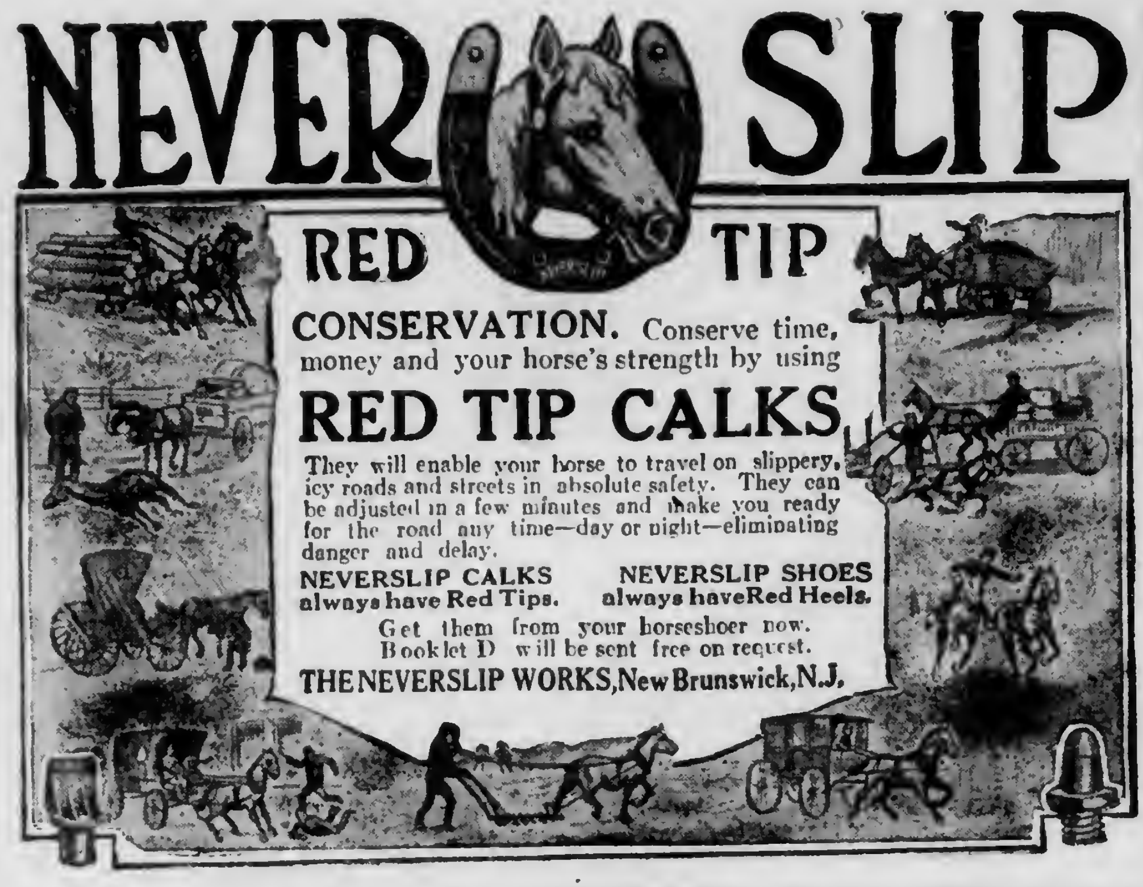

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Live Stock

WINTER RATIONS FOR BREEDING SOWS

"The wise man is going to breed more sows this fall than last year," says George M. Rommel of the U. S. Department of Agriculture. The farmer will immediately want to know how he can maintain his sows during the winter with feeds at the present high prices and make a profit.

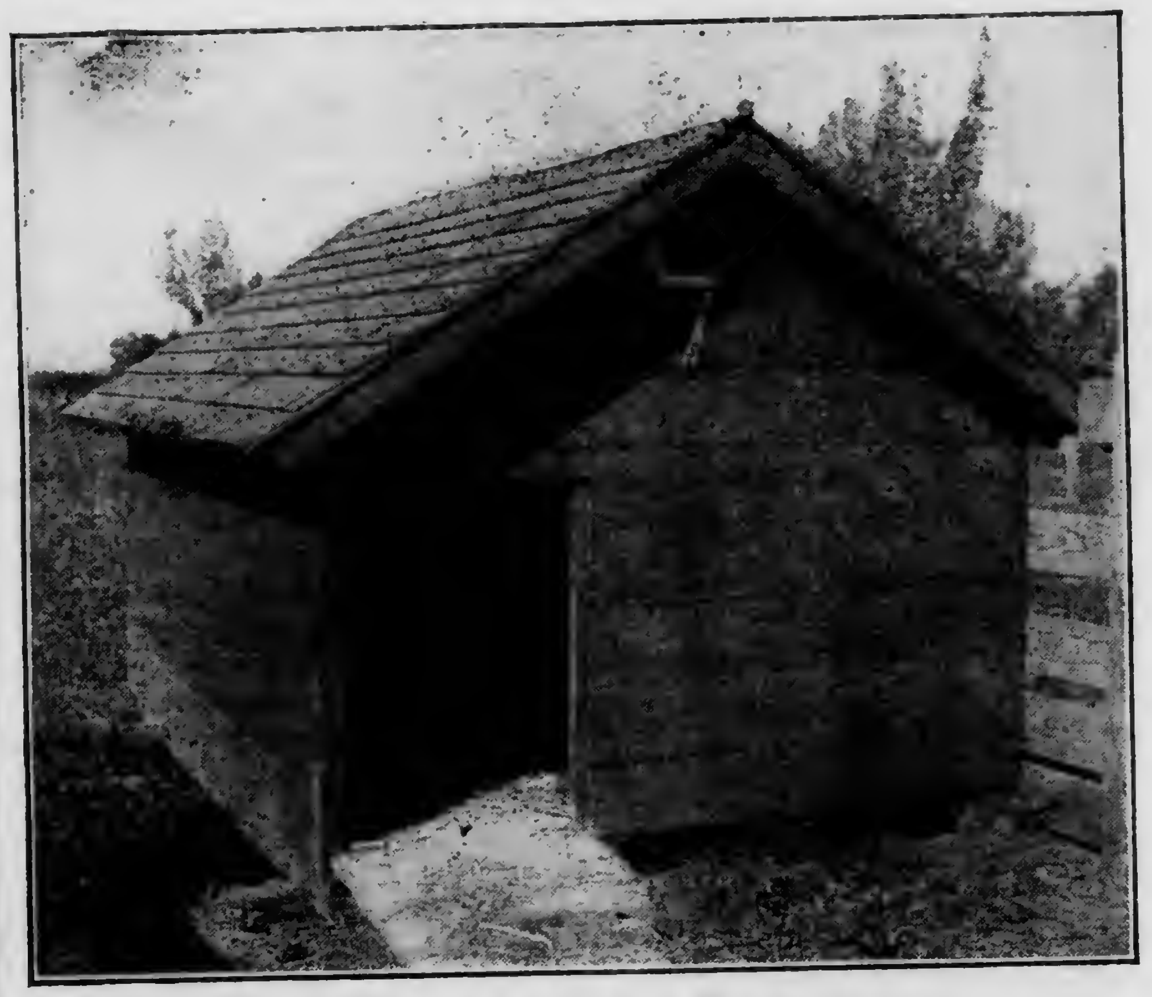
The Missouri College of Agriculture has found that satisfactory rations for the winter period or while the gilts are pregnant will not be excessively expensive. In December, 1916, 42 head of purebred Poland-China gilts, farrowed in late March and April in the previous spring, were placed on a feeding experiment. These gilts had been liberally fed on forage during the summer and fall. They were divided into six lots of seven each and each lot was handled in exactly the same manner except that a different ration was fed. One lot received 10 parts corn, 1 part tankage, and all the alfalfa hay they would eat. A second lot received the same ration except that clover hay was substituted for the alfalfa. A third lot received 10 parts corn and 1 part tankage. A fourth lot received 5 parts corn and 1 part old process linseed oil meal. A fifth lot received 8 parts corn, 2 parts shorts, and 1 part tankage. The last lot received 8 parts corn, 4 parts shorts, 1 part bran and 1 part tankage.

The clover and alfalfa hay were fed once daily in a rack. The corn was ground. All feed excepting hay was mixed with water at feeding time and fed morning and evening. All lots received enough feed to keep them in good growing and breeding condition. An effort was made to keep all lots at a uniform weight. In other words, the condition of the sows fixed the standard of feeding and thus determined the amount of each ration fed.

The average weight of the gilts at the beginning of the trial was 186 to 188 pounds and at the close they averaged 265 to 270 pounds, having gained 75 to 84 pounds. The cost of feed consumed ran from $11.84 to $13.47 per cow with feeds at present market prices: Corn $1.25 per bushel; shorts $2.60 per cwt; bran $1.75 per cwt; tankage $90 per ton; old process linseed oil meal $60 per ton; alfalfa hay $30 per ton; clover hay $20 per ton.

Figuring the value of the gain at present market price of pork it will be seen that the value of the gain was enough to pay for the feed consumed. It is of course true that bred sows would not be salable on the market without docking. On the other hand, it is very seldom that such gilts could not be sold for brood sows just before farrowing for more than they would weigh out at the market price of pork. While the data here presented does not show the farrowing records of the gilts, it might be said that all rations proved satisfactory in this respect.

The results obtained indicate that it is good business even with feeds at the present high prices to breed and carry growing gilts thru the winter. This is the most logical method of beginning a remedy for the present pork shortage.



Good Type of Individual Hog House

FEEDING SOFT CORN TO HOGS

There is a considerable amount of corn which was not sufficiently matured to escape frost. This corn, while containing too much moisture for permanent storage, has practically the same feeding value as well matured corn on a dry weight basis. Where soft or frosted corn is to be fed to hogs, the New Jersey Experiment Station advises that the following precautions be kept in mind.

First, the soft corn should be fed during the early stages of the fattening period, as it is relatively low in starch and therefore not so well adapted to the finishing period as a more thoroly matured grain.

Second, soft or frosted corn may contain as much as 35 to 40 percent of moisture and is likely to shrink considerably and spoil if stored for any great length of time. Usually if stored in well-ventilated cribs, no fermentation will take place during cold weather.

The pig appears to be the logical animal for converting the soft corn into food for human consumption, since the bother of shelling or grinding is eliminated. Pigs may even be turned into the corn fields and allowed to harvest the crop without labor to the farmer. This practice is known as hogging down corn. The animals will clean up the grain and, if the stalks are not too well matured, will eat much of the stover. Soft corn should be supplemented with tankage or other protein feeds the same as any other corn.

IMPURE WATER DANGEROUS TO STOCK

The importance of pure water on the farm, for both human and animal consumption, cannot be overestimated. It is not generally known that the area drained by a well is equal to four times the depth of the shaft of the well, and even when this fact is known it is too frequently disregarded. The area drained increases as the water becomes lower in the well and, accordingly, the danger from contamination becomes greater.

In drilling or digging a well, choose a location that is higher than the surrounding ground in order that drainage may be away from, instead of towards, the source of water supply. All farm buildings used for housing livestock and all lots or paddocks accessible to animals should be far removed from the well. Manure piles nearer than several hundred feet should be especially guarded against.

Water that is clear as crystal and has every appearance of being pure may be literally infested with disease-producing bacteria, which are discovered only upon the outbreak of some disease and then only because a bacterial analysis of the drinking water usually follows such an outbreak.

Some of the more common diseases of farm animals due to bacteria in drinking water, according to F. S. Hultz, of the animal husbandry department, Pennsylvania State College, are black leg, hog and fowl cholera, glanders, anthrax and colt distemper, all of which are of too serious a nature to be harbored in the farm well.

PRACTICAL HOG FEEDS

Shelled corn, hominy feed, ground rye and ground barley are all concentrated carbohydrate feeds and serve to make up the large proportion of the ration. To balance these grain feeds some feeds high in protein are necessary, among the most common of which are skim milk, meat meal tankage, linseed oil meal and alfalfa hay.

In choosing among the grain feeds mentioned, the price for which such feeds can be purchased is the big consideration. During November and December new corn should be the cheapest carbohydrate feed, everything considered. Hominy feed is slightly more efficient than corn or corn meal in producing gains; ground rye is somewhat less efficient than corn, while barley is about the same in feeding value. Skim milk is the best supplement to grain known for feeding pigs, young animals in particular. Meat meal tankage, or hog feeding tankage, is one of the best substitutes for skim milk. Oil meal is very good but does not have the quality of protein found in digester tankage. Alfalfa hay makes an excellent supplement to grain when the pigs eat sufficient amounts. Shoats and brood sows should eat as much as 1 to 1½ pounds daily to satisfy their needs for protein.—N. J. Experiment Station.

Do You Know—
How to get a horse from a burning barn?
How to raise an orphan colt?
How to pick a good brood sow?
How to feed your cows to give the right color to your butter?
How to prepare cattle for shipment to avoid heavy shrinkage?
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¶ These and many other valuable questions are answered in a new Live Stock Book we have just issued and which we will gladly mail, postpaid, to anyone who will write for a copy.
¶ It also contains record forms for keeping track of service dates, due dates for mares, cows, ewes and sows. Gives causes, symptoms and treatment of diseases of animals. In fact, is a very useful and valuable book for live stock owners.
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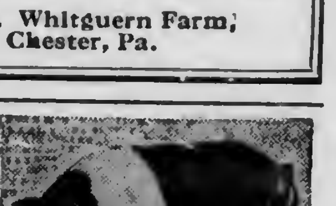

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Expel the worms and keep their digestion in good condition, and they will assimilate what they eat and put on flesh. Feed is too high to waste—put it into flesh by giving your stock *Dr. LeGear's Stock Powders.*

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"Big Clover" meets this requirement perfectly. It is made of the cleanest and best grains obtainable for the purpose, and seasoned with salt giving it a flavor and relish that induces a healthy appetite and perfect assimilation.

Palatability and Nutrition are the Big Advantages of Clover Leaf Feeds

They produce more milk of better quality than other feeds. "Big Clover" may be used alone as a complete ration for heavy milkers, or it may be toned down by the addition of home grown grains such as ground oats, corn and cob meal, etc., to bring the protein content down to 22%, 20%, 18% or whatever may be required.

"Big Clover" possesses every element desirable in a 24% ration and is *rightly priced.* It will *save you money* because it saves the time, labor and cost of mixing. Try "Big Clover" and be convinced.

Look for the Four-Leaf Clover

It's the sign of good luck—and good feeds. All the Clover Leaf brands are identified by the four-leaf clover as shown on the sack. These are the Clover Leaf quality feeds:

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Protein, 24%; Fat, 4½%; Fiber, 15%.
CLOVER-LEAF DAIRY RATION
Protein, 16½%; Fat, 3½%; Fiber, 15%.
CLOVER-LEAF DAIRY FEED
Protein, 13½%; Fat, 3½%; Fiber, 15%.

Clover-Leaf Calf Meal—Clover-Leaf Horse Feed—Peerless Horse Feed—Buffalo Horse Feed—Clover-Leaf Stock Feed—"Every Ounce Guaranteed."

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Veterinary

Conducted by W. C. Fair, V. S.

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Swollen Sheath—Dropsy.—I have an eight-year-old horse that seemed perfectly healthy until one month ago. Since that time, however, he swells in the sheath and from the sheath towards the fore legs. If I work him every day, he swells very little. At present he has not been exercised for five days. Now he is badly swollen. His appetite is good and he drinks plenty of water. J. B., Danboro, Pa.—A dropsical swelling under abdomen and swollen sheath are only local symptoms of an abnormal or inactive condition of the secreting and excreting glands of body. Every horse that is not sick or lame should be exercised daily. His stable should be kept clean, well supplied with fresh air and the bowels kept open. Give him one dram fluid extract nux vomica, three drams Donovan's solution of arsenic at a dose, in either feed or drinking water, three times a day. Also give him a teaspoonful of acetate of potash in drinking water, two or three times a day until his kidneys act freely, then give this medicine as often as you believe it necessary to stimulate the kidneys into action. Hand rub the swelling twice a day, but do not apply liniment, for if you do it will be likely to make him swell more.

Serous Abscess.—My four-year-old driving horse fell down and must have bruised point of hip. Since he met with this accident there is a soft swelling about the size of a one-half gallon measure on hip which appears to be filled with fluid of some kind. I have been applying wormwood and vinegar, but am inclined to believe the swelling is increasing. However, the horse does not appear to suffer any pain and has a good appetite. G. D. R., Honesdale, Pa. —The swelling contains a watery fluid which should be allowed to escape. If the swelling is hot, which would indicate that its contents is blood, you had better postpone the opening of it for a few days; but if cold, open it up freely right away, in order that the sack will empty. Paint the edges of the wound with tincture iodine daily. It is not always good practice to inject medicine into a sack of this kind, unless you use a strictly clean syringe, then you may use one part coal-tar disinfectant and thirty parts water, once a day.

Ringworm.—I have a yearling colt that has three sores on neck, which are about the size of a silver fifty-cent piece. The hair has fallen off the circular patches. They are all on the left side of the neck. N. B., Eleanor, Pa.—I am quite inclined to believe that your colt suffers from ringworm. If you will clip the hair off the surrounding edges of sore and paint these edges of blotch, then saturate the diseased parts three times a week, the colt will soon get well. After the itching discontinues, apply petrolatum to soften skin and start the hair.

Bruised Knee.—We have a cow whose left knee is swollen. The bunch is not hard and produces no lameness. So far as I can tell there is no soreness. But it is a blemish and I would like to know if it can be removed. G. T. K., Meadville, Pa.—Apply equal parts tincture iodine and spirits of camphor every day or two. It is well to keep in mind that an ailment of this kind is the result of a bruise, very often caused by cows getting down on their knees in an effort to reach food that has been thrown out of feed box into aisle. Rather poor results will follow treatment if the cause is not removed.

Sore Ear.—I have a valuable brood sow troubled with a sore ear. The wound appears to be dry and itchy. So far as I can tell it was brought on by our dog biting her. D. C. K., Mt. Pleasant, Pa.—Paint sore with tincture iodine and then cover wound with a flexible collodion and leave it on.

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Getting Most out of The Corn Crop

Methods of Feeding to Produce Most Live Stock and Supply Demand for Human Food.

Prof. W. H. TOMHAVE
PENNA. STATE COLLEGE

The food situation of the world is pressing upon the farmer the problem of how to utilize the corn crop to best advantage. It is urged on all sides that we make available for human consumption as much corn as possible and substitute it in part for wheat. Such practice will no doubt be followed in many homes, and the people will be fully as well nourished as when no corn at all is used. Corn has always been regarded as a feed for live stock rather than as a human food and the amount used for human consumption has been comparatively small. Today the farmer must begin to approach the problem of handling the corn crop from another angle. The crop must be utilized in such a way that the amount required for human consumption will be available; at the same time, the production of live stock and live stock products must not be curtailed. It will probably mean that a more careful and judicious method of feeding live stock will result from the situation.

There is practically no class of live stock on the farm to which corn can not be fed in some form to advantage. It is also true that some forms of live stock can handle certain parts of the corn plant much better than others. In the discussion of this subject it is the aim to suggest methods by which the entire corn plant can be converted into a finished product rather than the grain part which can be disposed of and used without much difficulty.

Silage

Handling the corn crop thru the silo is without question the most economical and satisfactory way of securing the maximum food nutrients of the crop produced. This is due to the fact that there is less loss thru weathering, fermentation or leeching when corn is fed thru the silo as compared with feeding it direct from the field in any other form. The excellent results secured from feeding silage is also credited to the fact that the material is in a succulent form and more easily assimilated than when fed in any dry form.

Corn in the form of silage is available for practically all classes of farm animals. As a feed for dairy cattle it is unsurpassed, because of its tendency to stimulate greater production. It also seems to render other feeds fed in combination more palatable and digestible. Dairying without the use of a silo is an unprofitable venture.

With the improved method of making corn silage from mature corn there is no feed that is so important in economical beef production as corn silage. The maximum returns are secured from the corn crop when fed to beef cattle in the form of silage and it provides the cheapest form of beef production known at the present time. It is doubtful if any person can continue in the beef making business without feeding corn in the form of silage. The corn crop may be fed as silage in limited amounts to sheep and horses, showing its practicability for all farm feeding.

There are many farms, however, upon which no silos are found and where it is important to utilize the corn crop to the best advantage. The manner in which it should be fed will depend upon the class of live stock kept. If dairy cattle are kept, the corn must be husked and fed in the form of corn meal or corn and cob meal, as there is no method of recovering the waste when fed as whole corn. It must be fed in combination with other concentrate feeds, especially those that are high in protein. There may be a tendency to buy sparingly of protein feeds, such as cottonseed meal and linseed oil meal because they seem high in price. They are, however, the cheapest source of protein and essential as a feed in addition to corn. If the corn is not properly supplemented with protein feed the animal can not make the maximum use of the crop. Other roughage such as mixed hay or clover or alfalfa hay should form a large part of the roughage when corn grain is fed. Corn stover in one form or another should be fed in such amounts as the cattle can be induced to consume daily.

Bundle Corn

When beef production is practiced without corn silage it is important to save as much as possible and yet make good cattle. It is impossible to fatten cattle unless corn or some concentrate grain is provided in some form. Experiments show that next to silage, cattle prefer the corn crop just as it comes from the field. This accounts for the popular feeding of bundle corn if it can be properly stored away during the winter months. The feeding of the "bundle corn" or "shocked corn" is also a means of saving labor, as the corn does not have to be husked. It is essential, however, that the crop be handled in such a way that it can be carried into the winter in good condition. This may be done by putting up large shocks in the field or by properly stacking the corn crop when dry.

When cattle are fed on bundle corn it is usually a good practice to give them some hay in addition. It will also be difficult to get the cattle to consume all the stover, which means that this loss must be met by feeding it to some other cattle or to have it used for bedding. When cattle, other than the fattening cattle, are used to consume the surplus stover they should have in addition some hay and a small amount of concentrates of some kind, as the best part of the corn has been taken by those animals that are fed the bulk of the corn. The reason for fattening cattle relishing the corn crop in this manner is that the ear has usually lost none of its aroma and it is kept soft and palatable by being left in the husk.

Bundle corn must be supplemented with some concentrated protein feed. Alfalfa hay or clover hay will supply a part of this, but it is not economical to depend upon it entirely. Cottonseed meal or linseed oil meal are the most desirable concentrates. These should be fed to cattle as a mixture, but only

(Cont. on p. 12.)

Feeding Cattle of This Kind Promises a Good Profit on Good Feeding

Bringing up a Run-Down Farm

Soybeans and other Legumes made Basis of Success

In the spring of 1912 my father purchased a farm of 60 acres, located in the eastern part of Holmes County (Ohio). It was somewhat hilly, but easily worked. After he purchased it, I rented it from him for share rent. This farm was run-down, or in other words rather poor in fertility, and in general appearance, delapidated. To tell the truth, it was in far worse condition than either of us imagined when my father purchased it. From some of the experiences which I underwent it may seem that I was not cut out for a farmer, but I know that I tried to do my best, and any farmer who has had experience in trying to eke out an existence on a run-down farm will sympathize with me. I can now see wherein I erred, and I also see now that my experiences were worth a great deal to me. I have often thought that perhaps it would have been better if I had rented an improved farm from a stranger. However, I have come to the conclusion that it was good for me to get onto a place where I would be obliged to work up to a certain standard in order to keep my head above water, rather than be placed on an improved farm with a silver spoon in my mouth.

The gates were down, the fences in bad shape, outbuildings poor, garden fence enclosed a mass of briers. The chimney of the house was unsafe. Otherwise, the house was in fair condition, as was also the barn. There was no chicken house worth mentioning, no hog house, or hog lot, even. Manure had been left to accumulate for several years. This was the best part of all the bad conditions However, it would have been much better if it had been put on the fields. With all these conditions to contend with is it small wonder that I was discouraged sometimes?

But between us we managed to get fences, gates and outbuildings repaired, and in many instances we erected new. The chimney was rebuilt, a hog-lot was fenced off, and instead of building a hog-house we resorted to the portable "A" hog house for sheltering our hogs. A chicken house was erected, and new siding was placed on the barn. Old fence rows were cleaned up and cultivated. We left a mark wherever we touched. This was not all done the first year, but some each year. While I did not do all this myself, I always helped, and there was no "slacking" when work of this kind was being done. I figured that as long as I must be a renter, it did not pay to move every year. Those who move each year scarcely ever do anything to make the farm look better, or make an extra dollar for the owner. Someone may be inclined to think that because the farm belongs to my father, it is an incentive to work towards an improved condition. Let me say that were I living on a farm belonging to a stranger, I would still do the same, if it was appreciated.

I made some mistakes, but in the end perhaps they will prove to be valuable. Benjamin Franklin said, "Experience keeps a dear school, but fools will learn in no other". The first mistake I made was in trying to make a living, giving share rental at the same time, by following the time-worn rotation of corn, oats, wheat, clover, timothy two years, and pasture one year; in other words, a seven-year rotation, with only one legume included and small chance for it to succeed on poor land with only a limited amount of manure to use. Of course, we used some fertilizer; but the results were limited, because humus was lacking. Where humus is wanting, fertilizer will never prove very successful. Naturally the mistake of using such a rotation led to unsatisfactory results, because we could not get enough organic matter into the soil to build it up.

We also tried to raise crops without lime the first two years, but this proved to be another mistake. I might go on and enumerate many more troubles but these stand out plainly enough to speak for themselves and to show why we later changed rotations.

After trying hard for about two or three years and failing to note any progress, I began to think, and tried to find out what other men under similar conditions did. In several cases I found that they used shorter rotations with plenty of inoculated legumes, some fertilizer and plenty of lime. Also, as much manure as can possibly be produced. Learning these facts, I decided to travel this route and succeed, or else fail and quit, which I must do if no other means of fertility could be found to increase the fertility. I had to go it alone in my locality, for short rotations and plenty legumes are unknown in this section. Clover is the only legume widely grown here and much of it is far from good. I figured that it was no worse to fail in this venture than to fail by the older plan so long followed.

Stumps and Chunks of Wood Make Poor Filling for Roadways

After convincing my father that if other farmers could succeed by these means there was no reason why we should not also, if we had the nerve to break away from traditional customs, we started in by sowing vetch and rye on our poorest ground. It was a success, altho all other crops had failed there. We also planted soybeans for hay and seed and had fair success. This was also on our poorest ground, and was done without manure or fertilizer. Lime was used at the rate of from 800 pounds to one-half ton per acre. One very important point which we did not neglect was the inoculation of our legumes. We attribute much of the success to the inoculation. This is true of both the vetch and soybeans. This season (1917) we seeded a piece of ground, which has not produced good pasture since we have owned it, to soybeans for hay, and cut nearly three tons of very fine soybean hay. We used no lime here, but about 200 pounds of acid phosphate per acre. An unusual fact about this piece was that no better inoculation could be obtained with lime than we had here. No soybeans ever were grown here before we tried it, and whether lime had been applied is doubtful. No one knows of it. I do not give this to induce anyone to try legumes without lime. This was an exception. A neighbor tried soybeans this year without lime and had a dismal failure. We planted soybeans with our corn to accomplish the following: (a) To inoculate the soil for future soybean crops; (b) to provide nitrogen for the corn; (c) to produce humus in the form of leaves, roots, etc.; (d) to produce seed, if we have time to gather it.

We have started growing cover crops to give our fields a blanket during the winter. This year our wheat and clover looks very good. Our vetch and rye shows prospects of a good crop next year. Of course, much depends upon the coming winter months. Our crops of vetch and rye seed, and our soybeans for seed were very good.

Our efforts have begun to bear fruit, or at least we are optimistic enough to view it in that light. Neighbors' opinions have changed somewhat concerning the growing of legumes. We can see results of our improved methods right here on our farm. When we were certain that we could grow legumes such as soybeans, hairy vetch, etc., we began to figure on a rotation which would be shorter, which would contain plenty of legumes, and which would supply much organic matter for humus. Here is what we finally decided upon, and which we are now following: First year, corn and soybeans; second year, oats or soybeans; third year, wheat or vetch and rye; fourth year, clover and timothy for hay, and clover seed in fall. Here we have a four-year rotation which contains plenty of legumes, at least one every four years, and if soybeans are planted with the corn we have two legumes per four years. If soybeans are grown instead of oats, we have three legumes per rotation, and if vetch and rye are substituted for wheat we have four legumes, or one each year. The rotation can be made to conform with the condition of the field. The poorest ground can be given the most legumes. We have fenced some of our fields and are arranging the balance to conform with this rotation. We adopted this rotation after being convinced that our land needs humus more than anything else, and that the proper and quickest way was to shorten the rotation and grow legumes. We also use more lime for we find that legumes will not thrive well where the soil is not sweet. Do not omit lime, for even if you should happen to be successful with soybeans, clover will not thrive without it.

I do not wish to be too optimistic concerning our future achievements, for "The best laid plans of mice and men gang aft agley". Such may be the fate of our plans, but if health and opportunity permit we shall be able to accomplish more in the next five years than we have in the past five years, or else my predictions fail. — Warner E. Farver, Holmes Co., O.

LIME IS A SOIL CONDITIONER

It not only sweetens the soil but it also improves its physical condition, causing the small particles of compact, clayey soils to flocculate, thus making the soil more porous and leachy. Lime promotes the growth of legume crops which do not succeed well in acid soils. Lime also sets free considerable quantities of insoluble potash and promotes bacterial action which hastens the decay of organic matter and makes nitrogen more readily available. Lime gives stamina both to plants and animals. It is necessary in bone development. With plants it produces the ruggedness of structure which enables them to stand erect and hold their own against ordinary wind and weather.

By the Way

By

Father Penn

Land is the veritable mother of the human race. It is as essential to man's existence as is the sea to the fishes. From it, mankind draws all the primal necessities—food, shelter and clothing—and we are entirely justified in using the poetic and endearing term, Mother Earth. The desire to get possession of favored portions of the earth has been an actuating motive in man from the earliest period. Time was when he was a nomad creature, wandering from place to place in a never-ending quest for a more favored location for his flocks. Often his desires led him to covet a spot already appropriated by others and this caused war—primitive war—but he was actuated by the same covetous spirit which has caused most of the bloodshed thruout history—the desire to possess what others hold. Kingdoms and empires have stood or fallen as rulers were able or unable to hold or acquire land. Castes are created by the ability of a few to own land and the necessity of the many to work it by sufferance.

In this we find the cause of the Russian revolution and turmoil; the seething, chaotic condition which seemingly threatens the welfare of the civilized world. But unless we are acquainted with the history of Russia and know something of the pre-war conditions in which the masses of that unhappy country have existed for generations we can hardly understand them, much less justly criticise. If we are acquainted with them we will realize that the rank and file of the millions had more vital problems to solve in their own country, or what seemed to them more vital, than waging war on Germany. The bitterness of the peasant's life caused by his abject poverty and inability to better the conditions; the iron heel of the most cruel autocracy on earth crushing out the lives of political opponents by exile to frozen Siberia; the sight of the few living in ease and luxury on the toil of others; all these things were as smoldering flames in the breasts of the multitude, needing only the opportunity afforded by the government's engagement in the Great War to rise up and overthrow the power which oppressed them. The primary object of the revolution is to dispossess the landlords and aristocracy of their great land holdings and divide it among the common people. For this purpose the Czar was dethroned and the nobility imprisoned.

So far, we have had no landed aristocracy in America—that is, so far as agricultural land is concerned. Monopolistic possession of land in this country has usually been acquired for some other reason than food production, such as timber cutting, mining, manufacturing, water power, buildings sites, etc. The possession of favored spots of land is necessary in all these things, and most of the immense fortunes acquired in this country have been acquired by those who were so fortunate or foresighted as to get possession of these natural resources. After it is too late, we are beginning to wonder whether it was wise for the public to relinquish absolutely its claim upon these wealth-producing necessities. The universal demand for these things and the power and opportunity to regulate production and set prices made the acquisition of wealth possible and easy. Have all such fields been conquered?

There remains yet, subject to exploitation in this country, the source of food—agricultural land. As long as the supply of food equalled or exceeded the demand there was little opportunity, hence no desire, to make its production a "big business". In fact, "big business" prospered best when food was cheapest because labor could be hired more cheaply. But what of the future? Food stuffs have been becoming increasingly valuable during the past few years. The demand has increased faster than the supply. It is today the most important thing in the world. It promises to be of still greater importance in the next several years. Heretofore, the greater part of humanity gave food but little thought. It was taken as a matter of course—like the air. But that majority is considering food more intelligently than ever before, and capitalists are beginning to see in it other possibilities than speculation in food products.

Farmers may well welcome a temporary condition which will cause capitalists to cast longing eyes toward their business. It may compensate for many long, lean years gone by. But those same years, with the development that has come from meeting and overcoming natural handicaps, and the spirit of independence and interdependence that comes from the ownership of home, have made a type of manhood and womanhood that can never be replaced by peasantry or mere hands in a great farm enterprise. Sorry the day when farming ceases to be a character-building, home-developing institution and becomes a mere business.

The Efficient Tractor is the Most Promising Solution of the Labor Problem

Clearing Land and Removing Stumps

When it will Pay and What Methods to Use

By C. C. HULSART

NEW JERSEY

A query has come to me as follows: (1) What methods are used in New Jersey in the removal of stumps? (2) To what extent have stump pullers been used, and are they used now? (3) Do you think there is any necessity now for increasing the area for cultivation; if so, to what extent would it be necessary to remove stumps? (4) Are mechanical means cheaper than dynamite for small- and medium-sized stumps?

Here are four questions which are of more or less importance to the man who is about to clear new land and has not had any previous experience. If he has had much real experience, and is past the meridian of life, he will probably say, "Don't pull them at all; let the other fellow do it." I believe his judgment would be good. It takes courage, and a lot of it, and a great deal of hard work.

In this part of New Jersey, very little clearing of new land is being done—an occasional piece here and there only. The old method, in vogue when I was a boy 50 years ago, was to remove the wood, burn the brush, and then go at it with grub-hoe and mattock and clear it by main strength and ignorance, leaving all big stumps to rot away. At that time, that way of doing the work was not so bad because labor was cheap and plentiful, and all horse work was done with walking implements. Plowing, fitting, and cultivation were done in that way. Today, thru the evolution of farm implements and the scarcity and high price of labor of all kinds, there are radical changes in the clearing of new land. The farmer can not afford to leave his land occupied by stumps today, necessitating the doing of all cultivation with walking plows and cultivators, since if the land is free from stumps and roots the two-horse implement can be employed, thus saving the labor of one man which is a very important item at this time.

I have noticed frequently in the last few years that those who are clearing new land make it a point to make as nearly a perfect job of it as possible. To accomplish this the grub-hoe and stump puller are used. In some instances, dynamite is used also. This, however, depends upon the type of soil, size of stump, and the man. If the land has a sandy subsoil, dynamite does not work so well as where the subsoil is of a clayey nature. The sand is not firm enough, hence it blows out from under the stump without doing its work well. On clay land, or any hard firm bottom, dynamite is the agency to use for large stumps.

I have in mind three pieces of new land which have recently been, or are being, cleared of stumps. Machine pullers were used on two of these pieces and dynamite on the other. This land had sandy subsoil. Had it been clay or hard pan I imagine dynamite would have been used.

In discussing this question recently with a neighbor who, a short time ago, cleared about two acres with dynamite, the neighbor said he would prefer, for economy of time and money, to use both dynamite and the stump puller. The machine used here anchors to a main, stout stump and pulls by cable for 50 or more feet all around without moving. Yes, the stump puller is popular in its place, and so is dynamite where it works to good advantage.

Question three is very easily answered from my point of view. There is absolutely no need for increasing the area for cultivation. First, because it will cost upwards of, if not wholly, $100 per acre to clear it and remove the stumps. Some acres will cost more. Second, there is more land now already cleared lying idle this past summer for want of some one to work it than will be cleared in the next 10 years. Furthermore, much of this land can be bought for what it would cost to clear new land after the new land was bought and paid for. The problem today hinges on labor. There is not labor enough available at prices within the reach of farmers to cultivate the area now available for cultivation. What, then, is the use of trying to bring more acres into cultivation under present conditions? A few farmers may be so situated as to make it pay, but the majority is not.

What clearing I have noticed recently has been, not to secure more cultivatable territory in the main; but to open the landscape, improve surroundings, and enhance the value of already cultivated acres.

To sum up: Stump pullers are important implements in the removal of ordinary-sized stumps. The tree should have been cut at least a year before removing the stump to have it work easily. On sandy soils, medium-sized stumps can be more cheaply removed by the stump puller. On clayey soils and fairly large stumps, dynamite, in my judgment, would be the cheaper. Under present conditions, there is no excuse for clearing new land for the sake of more cultivatable acres, because it will cost more than land free from stumps can be bought for in most cases.

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Horticulture

BEFORE AND AFTER IN A PENNSYLVANIA GARDEN

In a recent issue of one of our leading magazines occurs the following statement: "He who adds by his own toil a bushel of potatoes to the world's food supply is aiming a direct blow at the German military idol." This may seem to be a considerable revision of the two blades of grass proposition, but the way it is being carried out in one backyard in Pennsylvania, under very adverse original conditions, is shown in the accompanying illustrations.

The first of these pictures shows the general condition of the place on February 22, 1916. All the rock shown there, and vastly more besides, was dug directly from the place itself. No more forbidding spot for gardening purposes could well be imagined. Nothing but stone and weeds had ever been produced on the site, and nothing but the magnificent view surrounding the place made it in any way desirable as a prospective location either for a garden or a home.

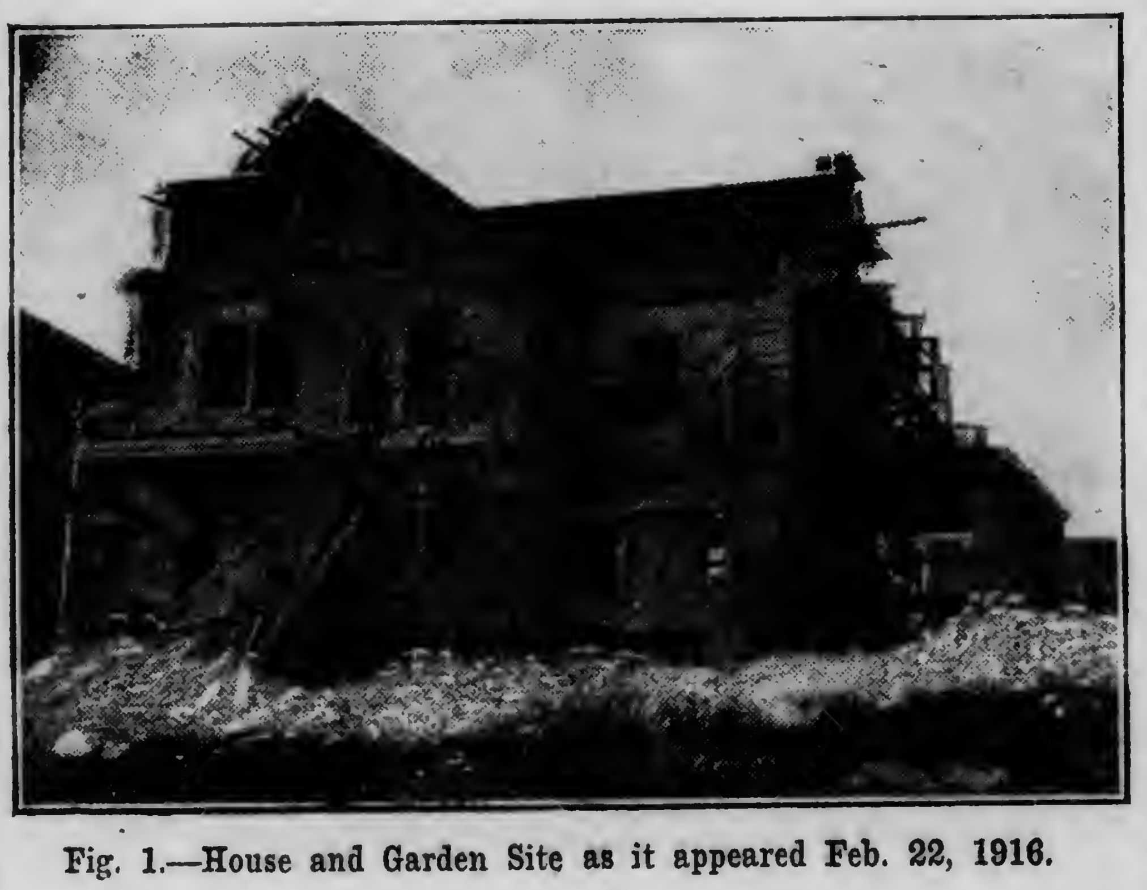


Fig. 1.—House and Garden Site as it appeared Feb. 22, 1916.

By dint of persistent and almost unlimited toil, however, the place now stands in the condition shown in the second picture. It was taken but slightly more than seventeen months after the first. This is a transformation which may well test the reader's credulity, and it is only with the aid of the camera that we are able even approximately to record the change.

The garden in the case, occupying about one-seventh of an acre where nothing of value had ever been produced from the soil before, has furnished enough vegetables for at least two average families during most of the current season, with a good surplus for canning and winter storage besides. In the section immediately adjacent to this garden, moreover, and within plain view from it, the gardening area has increased about ten-fold over last year's area and the present condition of all gardens is apparently distinctly higher than that shown last year.

If the statement quoted is correct, this one community in State College, Pennsylvania, is certainly doing its bit, along at least one line, towards "making the world safe for democracy". This case also may encourage some others, whose natural conditions are not of the best, to go ahead and make the most of what they have, both during the war and afterwards. —J. P. S.

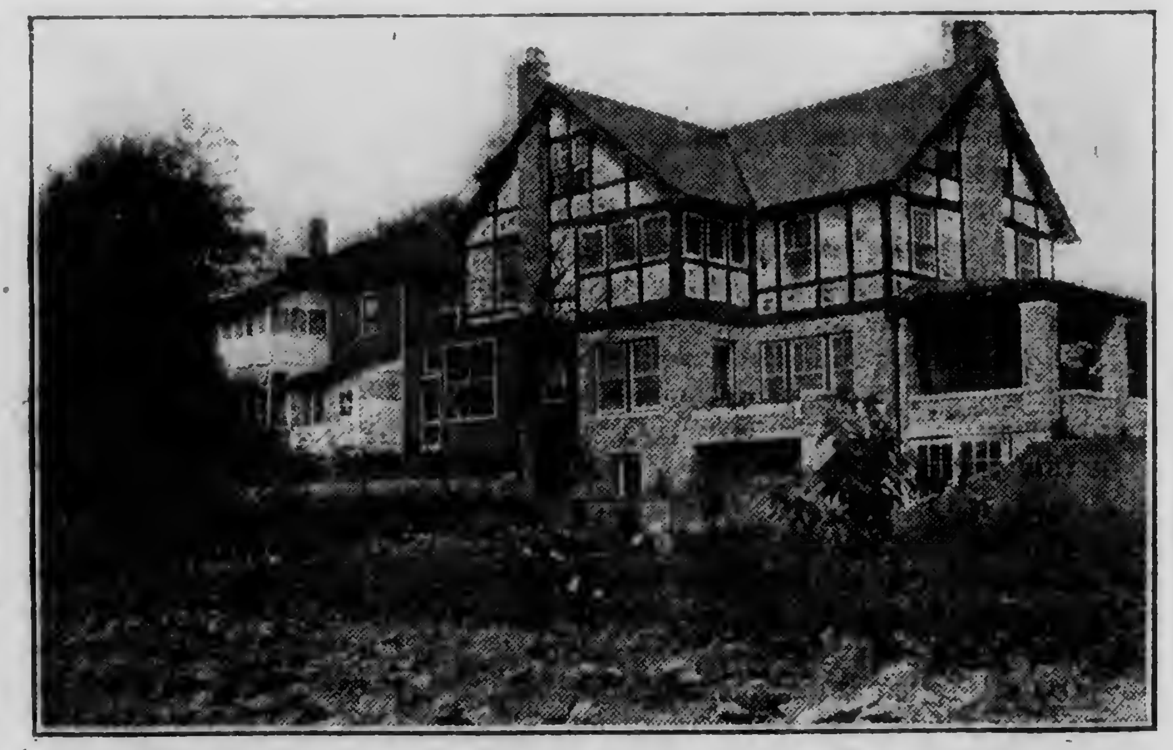


Fig. 2.—Same House and Garden, on July 30, 1917.

ROTATION IN THE GARDEN

Rotation in the garden is necessary to keep up a balanced fertility of the soil, and to keep the ground in a good mechanical condition. No two vegetables draw the same proportion of fertilizing elements from the soil, and if any one crop is grown in the same ground for two or more years in succession, the soil that grows the crop will be depleted of that particular element of fertility on which it feeds the heaviest.

Where rotation is systematically practiced in the garden, less manure or commercial fertilizer will be required to bring maximum crops, for the reason that the fertilizing elements in the soil are kept well balanced. It is not possible to grow heavy crops of celery or cabbage in the same ground four or five years in succession without very heavy applications of manure or commercial fertilizer. These plants draw heavily upon the nitrogen in the soil, and in order to replace the nitrogen removed in growing the crops, the ground each year must be manured so heavily that after a time the soil will contain an excess of phosphorus and potash.

The writer practices a three-year rotation in the garden. First year, celery and cabbage. These draw heavily upon the nitrogen. Second year, onions, potatoes or any root crop that feeds heavily on phosphorus and potash. Third year, beans and peas. These add nitrogen to the soil and place the soil in fine condition to be followed by celery and cabbage, or other vegetables that draw heavily soil. Liberal applications of manure are, of course, made each year, the idea of the rotation being to keep the fertility of the soil in a balanced condition.

Rotation should be practiced in the garden also, as a means of keeping down insect pests, especially those that spend part of their life in the soil. Nearly all insects are partial to a certain vegetable, and when their favorite food is grown no two years in the same soil, they are, in a measure at least, starved out. — T. Z. Richey, Indiana.

NOTES ON CHERRY GROWING

At the recent meeting of the American Pomological Society at Boston, cherry production received more attention than usual. It appears that this crop is coming into special prominence in certain favored sections of Michigan and Wisconsin, and is coming to be considered a "genteel occupation", especially in the latter state.

At the Boston meeting the general subject was very ably presented by Professor Taft of Michigan, and Secretary Cranfield of Wisconsin. Some of the notes that should be of interest to the readers of this paper are as follows:

A sandy loam soil is preferred for the cherry in both states and a situation near a large body of water is very important, for its tempering influence on the climate. In Michigan, the tillage and cover-crop system of soil management is preferred on all varieties, both sour and sweet. The plants preferred for the cover-crops are a combination of oats, rye and vetch, at the rate of 20 pounds each to the acre, sown about the middle of July. The oats in this combination gives a good cover in the fall and then dies down, permitting the rye and vetch to continue the cover during the winter and furnish some growth in the spring.

In some cases, a zone system of managing the cover-crop is used, in which a strip is cultivated on each side of the tree rows, beginning early in the spring, and the rye and vetch between the rows are permitted to mature seed, and then are disked down into the soil for re-seeding. This plan is the most economical and seems to be entirely satisfactory. In this case, it is probable that the oats would merely be used in sowing the cultivated strip on each side of the tree rows. In Wisconsin, buckwheat is chiefly used as the cover-crop, and the grain is harvested without any apparent damage to the trees.

Most of the Michigan growers prefer the one-year-old tree, especially in the case of the sweet cherry. The trees are headed about knee high, which reduces the danger from sunscald on the trunk. The trees are pruned to 5 or 6 branches, as a rule, and branches not over 1 to 1½ feet long are left without heading back, as the terminal buds are usually strongest. Those longer than 1½ feet are usually headed back. Some light pruning is continued as the tree grows, but the tops are left considerably more dense than in the case of the apple.

For the spraying, lime-sulphur solution is used regularly at a dilution of 1 to 40 on the sour cherries, and 1 to 50 on the sweet. In Michigan, dust has proved successful but the applications are much less permanent. The maggot is controlled satisfactorily with plain lead arsenate without any additional sweetening. In Wisconsin, bordeaux mixture, 3-3-50, is preferred and three applications are made. This of course is used only on the sour cherries.

The varieties used in Michigan are Montmorency for the sour, and Bing, Schmidt and Nelson are preferred for the sweet. They cover the season well, are less liable to crack than the Lambert and Windsor, and have proved rather more satisfactory all around. The sweets are somewhat slower coming into bearing but the fruit sells twice as high, so that within a reasonable time they are likely to be at least as profitable as the sour sorts. The sour cherries are profitable within four or five years, as a rule.

PRUNING AND REPAIRING TREES

Fall is a very good time to undertake the cleaning and repair of ornamental shade trees in this latitude. The leaves have dropped and one can easily see those branches which are over-crowded and those which are broken or injured. It is a season of the year when one may find a little spare time, especially on the farm, and this time can be well spent in cleaning up shade and fruit trees for next year, suggests H. F. Major of the Missouri College of Agriculture.

In the case of ornamental trees, the dead wood and crowded branches should be removed. Where limbs have to be removed, cut them with a clean smooth cut, and paint the wound over as soon as possible with a tar or lead paint. Cavities should be cleaned out thoroly, and all the spongy tissue removed; wash the inside with creosote and fill the cavity with a mixture of 1 part cement and two parts sand. It requires about three hours for the initial setting of cement, after which freezing will not injure it. It is, therefore, possible to fill small cavities at this season of the year on the warm days. Where large branches appear to be breaking down or where because of a wide crotch are splitting apart, the limbs should be drawn together and held in place with bolts and a chain. Do not use a straight iron rod, since this will not allow the limb to sway naturally in the wind, thus either twisting the rod or splitting the trunk.

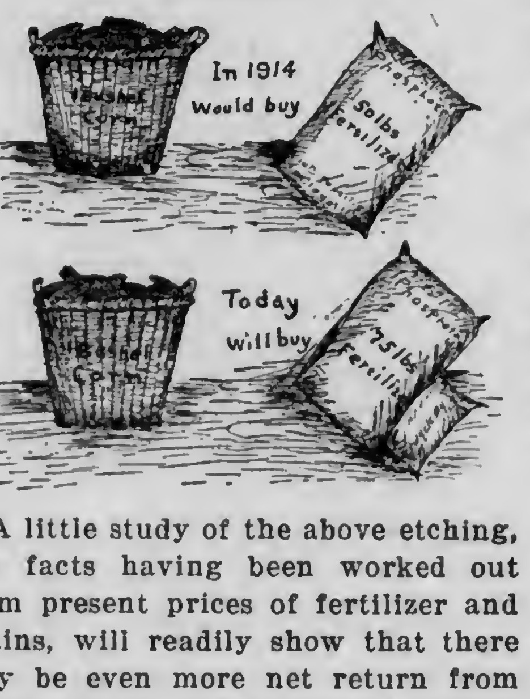
In the case of soft wood trees, such as the silver maple and cottonwood, one may top them or cut off the long slender branches at this time of year. In cutting, do not allow the falling branches to injure the lower branches. In case some are injured, remove them and repair them before they become affected with fungous diseases. Do not leave long stubs. Cut close to the trunk.

Hardwood trees, such as elms, sugar maple, and oaks, should never be topped, but should be allowed to assume their natural form. The only pruning necessary is the removal of dead wood and crowding branches.

Street trees should be pruned to a hight of from ten to twelve feet above ground. If possible, preserve a central leader in shade trees, as this tends to produce greater strength thruout the specimen.

Some of the best trees for street and lawn shade in Missouri are the Shingle and Pin Oak, American Elm, Sugar Maple, American Hackberry, European and Silver Linden, and Sweet Gum.

CAN I AFFORD TO USE FERTILIZER?



A little study of the above etching, the facts having been worked out from present prices of fertilizer and grains, will readily show that there may be even more net return from wisely chosen and supplied fertilizer today than before prices raised. It is well in considering the cost of any necessary supplies for the farm to compare their cost with the returns for the product, rather than to compare prices of the article itself with its price three or four years ago. The purchasing price of a bushel of grain, or pound of meat, or dozen eggs, will tell whether the purchase of a given commodity is economical or not.

MORE BIG POTATOES

In the issue of November 3, Pennsylvania Farmer, on page 20 I noticed a story of big potatoes. The largest potato weighed 1 lb. 11 oz., and largest hill produced 2 lbs. 14 oz.

I planted a patch of potatoes July 3, 1917. The frost killed them October 6. I dug one potato that weighed 2 lbs. 6½ oz. I have it yet. I have bushels weighing more than one pound.

I dug one hill that had six tubers which weighed 5 lbs. 4 oz. Just those six grew in that hill, no small ones. There were many hills that produced 5 lbs. 4 oz., ranging from six to fourteen in each hill with none smaller than a walnut.

I have taken Pennsylvania Farmer since 1884, Geo. H. St. John being editor and my teacher.—Ira Custard. Crawford Co., Pa.

COLD FRAMES

Something may yet be done toward having some cold frame products this winter. Cold frames are merely glass covered spaces, no intricate construction, no artificial heat.

There are places on many farms where there is a sunny exposure, protected from the cold winds by buildings, shrubbery, or a screen of boards or fodder. The soil should be rich or be made so. And it must be well drained.

Permanent sides may be constructed of concrete, but many are made of lumber that happens to be at hand. The north side should be the highest and the sash should be held from eight to sixteen inches from the ground. The outside should be banked up with soil.

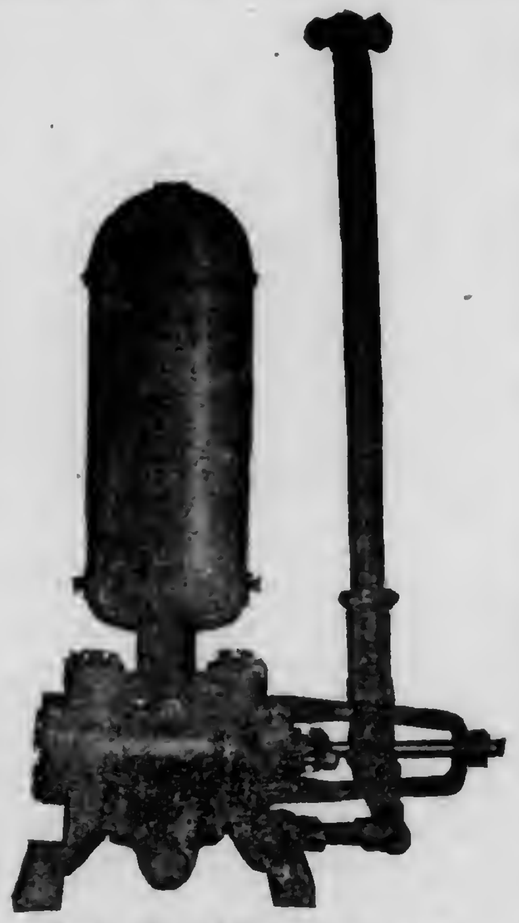
The size of the frames will, of course, depend upon the sash to be used. Regular hot-bed sash are popular but not essential. Any sash at hand may be used. There is considerable advantage in having two thicknesses of glass with an air space between to conserve heat. Commercial sash so constructed may be purchased, or one of the ordinary kind may be placed on top of another. If this plan is adopted with small window sash, they may be fastened together or not as desired. In many situations, double glazed sash will rarely if ever need protection by covering with carpet or burlap, which is quite a time-saving item as well as a saving of anxiety. Ventilation will need some attention, as well as occasional watering.

Lettuce, radishes, parsley, spinach and beets are crop possibilities. Pansies and violets should not be overlooked. Next year, swiss chard may be started in the late summer or early fall for once you become familiar with a cold frame, it becomes a fixture.—J. Frank Bartram.

FEDERAL FARM LOANS

A report issued by the Federal Farm Loan Board indicates that up to November 1st Farm Loan Bonds to the amount of $21,500,000 had been disposed of to investors of the United States. These bonds bear 4½ percent interest and are entirely tax free. They are sold at 101½ and are secured by the first mortgages taken in exchange for loans made to the farmers by the 12 Federal Land Banks and they are further secured by all of the assets of all of the 12 Federal Land Banks. These bonds are being offered to the public at the rate of approximately $3,000,000 per week. The money derived from their sale is loaned to farmers at 5 percent, the margin of one-half percent being employed to pay the expenses of the Federal Land Banks.

The total applications for loans in the hands of the 12 Federal Land Banks up to November 1, is $193,250,945. The amount put out in loans to farmers is $21,040,138. It is expected that from now on more than $8,000,000 will be paid out each month. Kansas leads in amount of loans closed with $3,039,000. Pennsylvania farmers have taken $141,800 in loans; New York, $66,350; Maryland, $58,600; Delaware, $2,600. New Jersey farmers have applied for a total of $604,745, but none have been placed to date, due to lateness in organizing local banks.



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PHILADELPHIA, PA., DECEMBER 8, 1917.

Democracy. What Does It Mean?

Democracy is an ideal. Its full attainment, like Christianity, has never yet been fully realized by any people, but the vision is becoming clearer to an increasing number of people. Out of the world's agony a new conception of democracy is being born, and as men realize what it is, and how desirable it is, they are ready to sacrifice for it. Sacrifice is gladly made because those who appreciate it and desire it realize that it makes for the common good. It means an elimination of selfish purposes and unjust practices.

Prof. Kenyon L. Butterfield, in an address before the Association of Agricultural Colleges, spoke in part as follows:

> "The fundamental characteristic of the new epoch will be the urgent, persistent, world-wide quest of a democracy that is at once genuine in its quality, and fully efficient in its social capacity.
>
> "But what is the broader conception of democracy? First of all, democracy means real equality of opportunity. Democracy also implies authoritative participation of the activities that determine their welfare.
>
> "Democracy exalts manhood as a thing sacred in itself. Democracy means responsibility. True democracy has more concern with the desire of men to serve the common good than with the insistence of individuals, groups, or classes upon particular rights. A full measure of democracy is impossible without a certain fraternal attitude . . . . . After the war we will see, I verily believe, democracy marching behind the Great Teacher, cherishing with its shibboleth the highest moral ideas and the profoundest spiritual teachings of the race."

* * *

Cottonseed Market

Material reductions in the price of cottonseed meal are promised in reports from the south. A late report points out that the supply of peanut meal, velvet bean meal and cottonseed meal is very plentiful. For those liking specific figures, it is said that the year's crop of peanut meal will total 607,000 tons. The supply of velvet bean meal is placed at 2,000,000 tons, and the cottonseed meal supply at 2,500,000 tons. This makes a total of 5,107,000 tons of meal to be consumed in the country where the normal consuming demand is well below 2,000,000 tons. It is expected that a larger proportion of the supply will be used for fertilizers than usual, but even with this there should be an ample supply and lower prices should soon result. In explanation of the high prices up to the present it is said that the opening of the crushing season was very late and a small amount has been crushed to date. But when the crushers are under full operation the demand will be more than cared for.

There has been an unusual demand for cottonseed meal this fall. With all staple grains high in price there has been a general tendency to cut down so far as possible on the farm-grown grains and supply the needed protein in the highly concentrated feeds. If there is a reduction in the price of cottonseed meal that will permit its wider use, it will mean a big saving to dairymen and all stock feeders.

* * *

The Horn of Plenty and Farm Mortgages

The financial section of a city daily carried parallel columns of interesting matter the other day relative to agriculture—interesting in that it gives the inquiring mind something to wonder at. In one column is given figures from the Government's crop estimates which show the gross value of farm products for 1917 to be $21,000,000,000, or an amount equal to the year's war expenditure of the United States. It is called "America's Horn of Plenty", and the inference is that agriculture has prospered beyond measure. One writer has said that the American farmer is the real "war bride" of this country.

The other column contains a financial letter from Chicago stating that farm mortgages are hard to collect, and are being called in at maturity since it is impossible to market farm mortgages in times like these. A representative of eastern bankers stated that there was practically nothing being loaned on real estate at this time and that private investors as well as banks are withdrawing from such forms and investing in other securities, principally Liberty Loans.

It is not for us to dispute the last statement, but knowing that the average farm mortgage bears about 7 percent while Liberty Loans pay 3½ and 4 percent, and knowing the tendency of coupon clippers to look for highest interest-bearing securities, and knowing, also, of the opportunities in other directions from which great dividends are secured, we cannot but have a question in our minds as to the purpose of the withdrawals. At least it would seem that a high appreciation of patriotic duty would not impel an investor to cripple a fundamental industry at this time in order to help in another direction. Such action would be literally robbing Peter to pay Paul.

Another question that occurs to us is: If farmers are so greatly prosperous as news items portray, why are mortgages and interest hard to collect? Also, if farm mortgages are not desired by banks and other investors, why the concerted opposition in the east to Farm Loan Banks? True, such opposition has mainly been expressed by absolute silence regarding the movement, altho some papers, speaking for the moneyed interests, have openly opposed the establishment of Farm Loan Banks which promise lower rates of interest and long-time payments. If agriculture is to prosper and develop as the needs demand it should, there must be a loan system devised to suit its peculiar needs as the present system serves other interests.

* * *

13 to 1

There was never a time when accurate records of the cost of producing farm crops were as much needed or of as great value to the farmers as the present. Every market price discussion hinges on the cost of production. Every effort on the part of the Federal Food Administrator to fix or stabilize prices must take into consideration the cost of production. And in the determination of these factors there has been little to draw on in the way of accurate farm records over a term of years. As a result, most of the work has been left to theorists and economists who, regardless of their good intentions or desire to be just and fair, must work on theory mainly.

The establishment of the relative price of pork, on the basis of hog and corn ratios, is an example. The committee reporting held that the establishment of price upon such a basis was not the most accurate or the best, but it was the best that could be determined upon without more complete data. The ratio of 13 bushels of corn to 100 pounds of pork was decided upon after an investigation of costs as recorded mainly by experimental tests for the ten years ending with 1916. Such tests showed that the average production of 100 pounds of pork required about 11.67 bushels of corn. Taking losses into account, the ratio of 13 bushels to 100 pounds was considered more nearly correct. We shall be glad to hear from farmers who have kept their own records on pork production in the East. How does this ratio compare with your experience?

This ratio may also be taken as a guide to new hog feeders, and there should be many of them this year. If you are not getting 100 pounds of pork to every 13 bushels of corn, it may be due to the methods you are using rather than to error in the ratio. If these figures are the average, the careful feeder should do much better. The big profit is in doing better than the average.

* * *

Who Are The Farmer's Friends

Last week we published part of an address delivered by Gifford Pinchot before the American Federation of Labor at Buffalo. In it Mr. Pinchot pled for a firmer co-operation between the farmer and the laborer, claiming a community of interests which made such a coalition desirable in order to create a power politically greater than the vested interests and thus be able to enforce economic justice.

This week we publish, on page 11, part of an address delivered by O. L. Martin, former Secretary of Agriculture of Vermont, before the National Founders' Association. Mr. Miller, in speaking to this group of manufacturers, suggests a coalition between farmers and manufacturers in order to procure mutual protection from the menace of labor unionism.

After reading these two addresses, both of which are logical and more or less convincing, the farmer is left in a quandary as to just where he is, and which—the manufacturers or the laborers—he should choose as his ally. He feels that he is in very much the same position as the middle man sleeping three-abed on a hot night.

Both the speakers referred to above spoke truth. The farmer has just cause of complaint against both capital and labor. The former because it frequently acts in finance and politics like the animal which has a reputation for getting both feet in the trough; the latter because, with its demand for high wages and short hours, it crowds him uncomfortably against the wall. Which will deal more justly with agriculture? Both should and must. Maybe, in that new era in which true democracy shall prevail, we will have "free and equal" opportunity.

* * *

Market Inspection

The U. S. Department of Agriculture is undertaking a most important work in the establishment of inspection service in the principal market centers. It is announced that such a service has been inaugurated in New York and Chicago, and will be taken up at an early date in several other large cities, including Philadelphia, Pittsburgh and Boston. For the present such inspection will be confined to car lot shipments. But the greatest benefits to be derived by the shipper may not be in the mere inspection of such grading as is now done. If the Department is behind this movement with a sincere desire to be of real assistance this work should lead to an early and vigorous revision of market grades.

Many of the present market grades serve no useful purpose except to confuse the shipper and complicate the matter of selling. The bulk of the poultry going to the New York market, for example, goes there ungraded so far as the farmer shipper is concerned. Let the farmer write for a report on the poultry market and he will be given a list of grades that will require a market expert and two qualified lawyers to decipher. It is practically impossible for him to make definite claims under the complicated system of grading used. And those grades disappear when the poultry is moved on to the retailer. So far as the consumer is concerned, there are but two or three grades, and only a small proportion of the consumers know or care what those grades are. The same thing is true of hay and many other commodities.

Grades are necessary for the development of a well-regulated market. But if they are to simplify rather than complicate the market they should be so made as to be recognized from the producer to the consumer. They should not be made by and for the use of the dealer alone.

HARRISBURG NOTES

Agricultural Schools.—Officials of the State Educational system say that the system of Federal aid in the training of teachers contemplated by the Smith-Hughes act is the very thing needed for the stimulation of agricultural schools in Pennsylvania at this time. Under the appropriations made by Pennsylvania legislatures in the last half dozen years there has been steady progress and L. H. Dennis, director of agricultural education, to whose energy the development of this state has been due, says there now 1,000 boys enrolled in what are classified as rural community vocational schools. In schools where a specialty is made of agricultural training, most of the time is devoted to practical work, both laboratory and field instruction, fundamental agricultural principles taught to be applied at home and results reported. The course now being presented consists of soils, crops, poultry, vegetable gardening, orchard work, dairying, fertilizers, farm management, blacksmithing, wood working and similar branches. Prof. Dennis says that agricultural instruction is now being given in thirty counties, seven having been added to the list this year.

The New Labor Plan.—The State Commission having provided the funds for launching the plans for the distribution of labor, steps will be taken to list men who can be moved from place to place as the demand arises and to not only cut out the waste of labor by sending men to jobs about which they do not know, but also to prevent bidding of establishments against each other for hands. Ultimately, according to Gov. Brumbaugh and officers of the State Public Safety committee, the plan will evolve an expenditure of $25,000 a month, which will be met out of the $2,000,000 appropriation of which less than $150,000 has been spent. It is also planned to establish next spring, summer training camps for boys to learn the principles of farm work. There will be ten such camps.

Tractors in Demand.—Tractors are in demand all over the state and if manufacturers can fill orders there will be a notable increase in Pennsylvania by next summer. The state has registered over 2,800 such vehicles and from reports by men connected with the State Department of Agriculture the farm type will be bought by a number of men on a community plan.

More Sheep.—The increase in sheep in Pennsylvania this year is going to run into the thousands in opinion of men who have been checking up reports from counties and keeping in touch with the activities of the committees which have been urging more sheep. The increase has been general and when the new dog law takes effect next month and the dogs are kept penned up after dark there should be another marked gain in counties where the dogs have been the bane of the farmer with sheep. It is said that in spite of the efforts made to increase hog raising that the figures for 1917 will show a decline, in spite of the big advance in prices.

Huge Auto Revenue.—Although there are some people who have misgivings regarding the effect of government control of gasoline next year there is no sign of any diminution in the number of motor vehicles now. The revenue received to date for licenses of all kinds, pleasure cars, business wagons, trucks, motor cycles, tractors and the like is $3,265,000 in round numbers, or $943,000 more than received up to this time last year. There are over 300,000 pneumatic tired vehicles alone. This great sum of money is to be utilized for road maintenance and will be employed this winter in keeping certain highways across the state open for relief of railroad congestion. As an indication of a big sum coming next year it may be stated that $152,000 for 1918 licenses is already in hand.

Medical Inspection—Only 92 districts out of 2,300 in Pennsylvania are reported as not having medical inspection of school children.

Fire Insurance Inquiry—State insurance authorities have started inquiries as to the reason for general increase of fire insurance rates in eastern Pennsylvania, but it is not believed it will get very far. The fire insurance laws are not yet so arranged in Pennsylvania that such things can be halted or even inquired into as may the Public Service Commission into rates of public utilities.

Lively Board Meeting.—If the signs are right there will be a lively meeting of the State Board of Agriculture here next month. The resentment at the way the administration has handled the Commission of Agriculture and the manner in which the Board has been kept in the background will probably lead to some discussion of interest.—Hamilton, Harrisburg, Dec. 3.

NEW YORK NOTES

Crops and Markets.—There has been a decided slump in the cabbage market. It is now $15 a ton, as compared with $35 a few weeks ago. Hay is advancing, selling now at $15 to $18 a ton. Potato buyers say that by January 1, potatoes will go to a very low figure. Buyers have had so many chilled, frozen and rotted potatoes that none are being carred in many localities that should be buying normally. Local shippers are paying as low as 90 cents a bushel. Buckwheat is bringing $3 per cwt., wheat $2.05, and barley $1.25. Farmers are not anxious to sell at these prices, feeling that the crop expenses of the past season warrant much better returns.

To Raise Hogs.—Ithaca will be our first municipality to aid the food administration by raising hogs.

To Draft Farmers for a Crop Army.—At one of the most important farm bureau meetings of the year held in Syracuse, Congressman W. W. Magee and C. H. Betts, secretary of the new state food board, pledged their best efforts to the farmers for a bill providing for the drafting of men from the farm for military service and then putting them to that service on the farms where their efforts will be of most value. Secretary of State Grange, W. N. Giles, reported that at a recent conference President Wilson and Secretary of War Baker had assured him that the administration hopes for the enactment of such a law soon. The President had advised the farmers to "get busy" on the matter. The mobilization of an agricultural army is now looked upon as the only relief for the great shortage on farms. Information must be furnished by the farmers as to the amount of labor each will require, the amount of seeds, fertilizers, etc., needed. To ascertain this the new State Farms and Market Council will take a census, and later each county will be organized into community groups, each group to include a reasonable number of farmers so that work can be carried on effectively. A uniform rate of pay is proposed. The plan of asking the national food administration to establish a standard design for farm tractors was taken up by the state board.

Important Milk Commission.—Very recently the producers and distributors of milk for New York City agreed to leave the price of milk for each in the hands of a special milk commission. The appointments have been made as follows: John Mitchell, of the New York state food commission; Dr. L. P. Brown, of the New York city board of health; Dr. W. H. Jordan, director of the Geneva experimental station; Jacob Schiff, Miss Mabel Kittredge, Eugene Schoen, of New York City; Arthur Williams, Federal Food Commissioner for New York City; Charles M. Dow, of Jamestown; Bradley Fuller, of Utica, and C. S. Sheduck, of Buffalo. Of the ten members, the farmers feel sure of a friend who understands the situation in Dr. Jordan. Four others are New York City residents who may reasonably be expected to know little of the milk production, if not prejudiced in favor of present methods of milk distribution, while others are factors unknown to the dairy rank and file.

Four Terms of School Per Year.—Commissioner of Education, Dr. P. P. Claxton, recommends the high school year to be divided into four terms of 12 weeks each. This is to be done tentatively in some cities to test the plan—with the expectation of generalizing the plan thruout the country. The long summer vacation is to be abandoned as so many city boys and girls need more time to work in winter, when opportunities are better, that they may go to school later.

Famine List Extended.—Food conservationists have made every effort to popularize the use of corn meal—without seeing to the amounts immediately available. Local trade in cereal has used up all the meal within reach, tho more is expected soon. Salt is also very scarce in up state city markets. Wheat flour was scarce last week but the supply is now nearly normal. Sugar continues to be more and more out of reach with no hope for 60 to 90 days yet, as transportation is so difficult. Condensed milk has been used very liberally since sugar became scarce, until many well-known brands are locally unobtainable. This with the popularizing of milk as a food as being undertaken by the conservative agents is expected to make milk in better demand.—F.

NEW JERSEY FARM NOTES

Flour Prices.—According to reports received by the State Department of Agriculture, much more corn meal and rye flour would be used in this state if New Jersey retailers could see their way to sell these products on a smaller margin of profit. "The profit at the present time is one hundred per cent greater on the war substitutes than on the ordinary white wheat flour," says a statement issued on this subject. More than 25 mills in the state are now supplying corn meal for table purposes at four and a half cents a pound or less. Some mills are reported about to commence on the new corn crop and plan to sell at the rate of three and a half. Rye flour is selling for less than five and a half cents and whole wheat flour is valued at about five cents a pound at the mills.

Agricultural Instruction.—The establishment of agricultural instruction departments in connection with many of the rural high schools of the state is urged in the annual report of Assistant State Commissioner of Education Lewis H. Carris, who has charge of vocational training in New Jersey. In this connection Mr. Carris urges that the minimum age for entrance to study in any of the vocational classes in the state should be 14 years. The minimum age now is 13 years. Plans are under way for the training of the agricultural teachers, which the State Department of Public Instruction must have to benefit financially from the Smith-Hughes Congressional Act.

Higher Teachers' Salaries.—A plea for higher salaries for the teachers of the state, particularly those in the rural schools, is one of the features of the annual report of State Commissioner of Education Calvin N. Kendall. It also finds expression in the report of Assistant State Commissioner, Z. E. Scott, who has charge of elementary education. Dr. Kendall says the total number of teachers who received less than $500 a year during the past term was 905, and the year before 985. A review of the figures shows that, considering the present purchasing power of a dollar, teachers in the one-room rural schools really received far less money for their services than did the corresponding teachers in 1912. Mr. Kendall advocates a minimum salary, but does not name the figure. However, his report says that he does not consider it should be as low as $500. Upwards of 40 one-room schools were abolished during the past year, and more than 1,200 rural school teachers in New Jersey had the assistance of the so-called "helping teachers".

Potato Prices.—According to the State Department of Agriculture, the potato market has slumped. Buyers at the shipping stations in the potato growing sections are paying $1 per bushel for good round stock; No. 1's are worth 25c bu. more. This is given as the reason for the difference in the prices in South Jersey as compared with Newark and Jersey City. In the latter place some stores were found charging forty cents for half a peck, or $3.20 a bushel.

School Boards.—The State Federation of District Boards of Education has under way an investigation to consider the advisability of urging the Legislature to decrease the size of some of the rural school boards, either to five or three members. There is some opposition to the plan on the ground that it makes for "autocracy" rather than democratic representation.—L.

COUNTY NOTES

Crawford Co., Pa., (N.W.) Nov. 12.—For one week the ground froze every night; nice days. Potatoes being dug; the very late ones quite good. Buckwheat nearly all gathered the last week; a fair yield for the straw. Wheat small. Eggs, 50c; butter, 48c; potatoes, $1.50; hogs, dressed, 21@22c. Very little corn husked. Many farmers have none to husk. Some good fields but not many. Apples are more scare than for years.—J. F. Seavy.

Mifflin Co., Pa., (C.) Nov. 14.—Weather the latter part of October was very poor for corn husking. Many hard frosts with rain and high winds. Since the first of November, weather has been fine; no rain and warmer. Feeder cattle are hard to get and very high. Dressed beef, 16c; pork, 20c; poultry, 25c; eggs, 45c; butter, 40@45c lb. Most of the potatoes were sold for $1 but are higher now. Apples, $1; wheat, $2; corn, new, $1@1.25; oats, 60c. Honey crop short and in strong demand. Comb honey selling for 18@20c lb; extracted, 12@15c. Much corn to husk yet, some making good yields others not so good. No plowing done yet. Some farmers hauling lime, paying 12c a bushel for it. Some threshing to do yet. Farm help so scarce that farmers are discouraged.—J. H. Byler.

FARM MEETING CALENDAR

New Jersey Horticultural Society, Newark, N. J., December 10-12.
Pennsylvania State Grange, Williamsport, Pa., December 11-13.
Delaware State Grange, Newark, Del., December 11-13.
Palace Poultry Show, New York City, December 11-15.
New York State Dairymen's Association, Syracuse, N. Y., December 11-14.
Maryland State Grange, Belair, Md., December 11-13.
Maryland Agricultural Societies, Baltimore, Md., December 18-21.
Pennsylvania Farmers' Week, State College, Pa., December 26-29.
Madison Square Poultry Show, New York City, December 28-January 2.
Delaware Corn Growers' Association, Middletown, Del., January 2-4.
New York State Breeders' Association, Syracuse, January 8-10.
New York State Fruit Growers' Association, Rochester, January 9-11.
New Jersey Corn Show, Trenton, January 23-25.

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The Dairy

MILK PRICES BY COMMISSION

As noted last week, the Federal Food Administration has decided to settle all milk price disputes in metropolitan areas by regional milk tribunals, federally appointed. The plan as officially announced is as follows:

This plan has been adopted by the U. S. Food Administration following requests for aid from contending parties in the milk districts of Chicago and New York. In these and other cities the increases in the prices of milk have created discontent among consumers. In justification the producers have claimed rising production costs, and the distributors have alleged rising costs of distribution.

The plan is to set up regional federal commissions on which producers, distributors, consumers, milk experts and the public at large will be represented. These commissions will be formed, so far as can be done, from citizens in the districts concerned. They will at once begin public hearings, giving all parties in interest an opportunity to assemble and present all milk data and attendant facts that may bear upon equitable prices, decide according to the facts, and make reports that will advise the public of the true status of the milk industry in each of the districts named.

Oxford Majesty's Gypsy, Grand Champion Jersey Cow at 1917 National Dairy Show, Owned by L. V. Walkley, Conn.

As the costs of producing and distributing milk vary, it is not expected that a uniform national price will be the outcome; but there is reason to believe that important reforms may be inaugurated both among producers and distributors as a result of the inquiries to be conducted.

New York Commission

The personnel of the Commission appointed for the territory supplying the city of New York was announced as follows: John Mitchell, New York State Food Commission; Dr. L. P. Brown, New York City Board of Health; Dr. W. H. Jordan, Director New York Agricultural Experiment Station; John T. Galvin, New York City Board of Water Commissioners; Jacob Schiff, New York City; Miss Mabel Kittredge, New York City; Eugene Schoen, New York City; Charles M. Dow, Jamestown, N. Y.; Bradley Fuller, Utica, N. Y.; C. S. Shedrick, Buffalo, N. Y., and Arthur Williams, ex officio, Federal Food Administrator for New York City.

This commission is empowered to determine after hearing, the reasonable prices of milk to be paid by purchasers to producers and by consumers to distributors, such prices to be based upon the cost of production and distribution, with a reasonable profit added.

The Food Administration believes that the controversy regarding the price of milk in the milk-producing territories and large consuming centers can not be settled until all facts bearing on the subject are presented to a competent and impartial tribunal for consideration and decision. This commission will consider the evidence presented by all parties having an interest in the question, whether producers, distributors, manufacturers of milk-products, representatives of consumers or representatives of state and municipal governments, and base its findings upon that evidence. The producers and distributors have voluntarily agreed that no increase in the price of milk to consumers in New York City will be made while the commission is conducting the inquiry.

Since adherence will be required to the future prices that may be fixed, no one desires that this commission shall set such prices at less than the cost of production or of distribution, with a fair profit added. If it is found that present prices, which are being maintained during negotiations, do not equal the cost of production or of distribution and a reasonable profit, common fairness suggests that the commission should make provision whereby the loss can be recouped in future periods during which producing and distributing costs are generally less. The commission will hold public hearings in New York City for the taking of testimony so that it may report not later than January 1, 1918.

STUDYING THE DAIRY COW

About as interesting a thing as I have seen lately was a little stock-judging study which took place at a farmers' meeting held at Whitney Point, N. Y., not long ago. A number of cows from a nearby dairy formed the basis of this lesson in picking out the best individuals. Prof. Wing, of Cornell, being the judge and the final referee. Cards were passed around among those present and they were asked to mark down their opinion as to the best and the second best. Two other choices

were provided for, a third and a fourth best. Each cow was given a letter and by these letters the cows were to be scored.

After the cards had been marked and gathered up, Prof. Wing summed up the markings and told how the vote stood. He then gave his own esimate of the respective value of the cows, noting the points upon which he based his judgment. The interesting point of it to me was that a good majority of the practical, everyday farmers present, altho not at all versed in the scientific methods of scoring a cow, agreed as to the best cow, altho there was quite a difference of opinion as to the other choices. It showed that the up-to-date farmer and dairyman, even if he does not understand the fine points of a cow as laid down in the books, is nevertheless able to judge fairly well by the physical appearance.

When judge and jury had rendered their verdict, the owner of the dairy who knows the cows from personal experience, told just how each of the four cows stands in respect to the production of milk and butter-fat. There were some pretty wild estimates by those who are in the habit of handling cows all the time, proving that many farmers do not as yet know how to select a cow by external appearances, or if they do, are not very well skilled in putting their knowledge to good use. It seemed as if a good many made up their estimate largely by the size of the udder of the cow, which is in fact only one of a number of physical points which must be taken into account in determining the probable worth of an animal of this kind.

It would be a great advantage to the dairymen of this country if they would make more of a study of cows. It would help about breeding, about which many are very careless now. There are men who pay very little attention to this most important matter which is the very basis of all success in dairying. To do well here, we need to exercise our powers of observation and develop these to the fullest possible extent. Something more than experience is needed. The fruits of experience must be brought into play. Three things are necessary to procure good stock, a good bull, a good cow and an observing, earnest, thoughtful man.—E. L. Vincent, Broome Co., N. Y.

Note. — To the above three we would add the fourth requirement which we believe is of greater importance than those named — test records. Records based on the scales and the Babcock test are the only final judges on the value of a cow. Judging by external appearance is guesswork even when indulged in by the best accepted authorities. To make the most money out of dairying or out of the breeding of dairy cattle we must eliminate guesswork. The daily records or the records as kept by the cow-testing associations tell the whole story as nothing else will.—The Editors.

FOREIGN TRADE IN CHEESE

The war has revolutionized the country's foreign trade in cheese, according to a statement just issued by the Bureau of Foreign and Domestic Commerce, of the Department of Commerce. During the fiscal year 1914, the last year before the war, the United States bought 63,800,000 pounds of cheese from Europe—26,500,000 pounds from Italy, 22,500,000 pounds from Switzerland, 5,500,-

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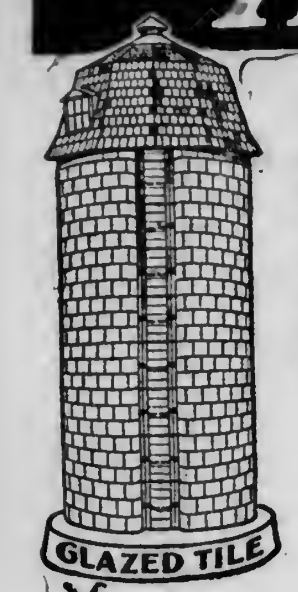

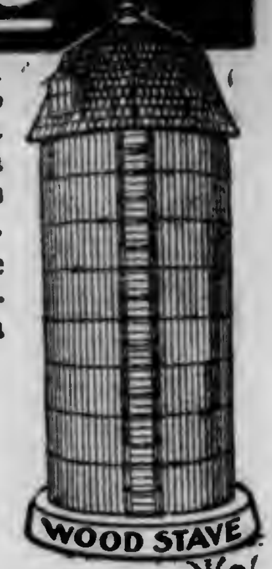

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000 pounds from France, 3,700,000 pounds from Holland, and smaller amounts from other countries. The average monthly imports from Europe were about 5,300,000 pounds. In August of this year exactly 99 pounds of European cheese was imported. It came from Italy. In September only 1,222 pounds came from Europe.

While Europe is wisely retaining this most valuable food for her own pressing needs, Argentina has turned to cheese-making on a large scale and is now placing important quantities in the United States. In August this year she delivered 448,000 pounds in this country and in September 279,500 pounds. These figures do not approach the imports from Europe before the war, but they are interesting in view of the fact that during the entire year 1916 not a single pound of cheese came from Argentina.

More cheese is being exported than imported. In September 2,000,000 pounds was sold abroad and was distributed to more than fifty countries. England took the bulk of it, 1,700,000 pounds, Cuba 109,000 pounds, and Mexico 39,000 pounds.

Filling Silo with Frosted Corn, Sussex County, N. J.

GETTING BEST SILAGE CORN

Except in sections where an early frost determines the time to cut corn for the silo, there still exists some doubt in the minds of many farmers as to what is the best time. The dry matter in the corn should determine this. Experiments have shown that corn which has just past the milk stage contains the most dry matter. Corn, then, should be cut for the silo just as it is beginning to dent. Some farmers pull down the husk of an ear and press the nail of the thumb into the kernel. If a juicy, fluid-like milk squirts out, the corn has not passed the milk stage and should be allowed a week or two more to grow and mature, providing the season will allow it without running any risk of the corn being injured by frost.

Frost injures corn for silage but does not destroy it. A heavy frost in Sussex County, N. J., on the mornings of September tenth and eleventh caught practically all of the corn except on the tops of the hills. All and all, a great deal of harm was done, not only because the texture of the corn was changed but also because it stopped growth. In case of a heavy frost it is always best to use the corn for silo filling as soon as possible to prevent its further drying out.

Some diversion of opinion also exists regarding the variety of corn to plant and the method of planting. It is not the greatest tonnage of green corn which is desired, but the largest tonnage of dry matter. This is usually obtained by planting a variety which matures one good sized ear to every stalk in the normal season, planted in a way that will give it all the opportunity it needs for development, considering space, sunlight, moisture and plant-food. Large varieties, such as Southern White, Horse Tooth, Eureka and the like, may be grown in localities having a long growing season, say from 120 to 130 days; but in localities having short growing seasons, Leaming, which has been acclimated or some other standard variety of the vicinity should be grown. Generally, corn grown thickly in rows will not develop ears of good size, and the content of dry matter is less. When grown in rows, kernels should be dropped at least ten inches apart and, better, fourteen inches apart.—John Voorhees.

MURNE COWAN STILL IN CHAMPIONSHIP FORM

Murne Cowan 19597, former world's champion over all breeds, and still holding the highest record for Guernseys, has come back with a third record. As a twelve-year-old she has just completed a record of 17,383.5 pounds of milk and 791.76 pounds of butterfat. Her average per cent of butterfat was 4.55, only two-hundredths percent below what she made at the time of her great record of 24,008 pounds of milk and 1,098.18 pounds of butterfat made two and a half years ago. Murne Cowan is a member of the great herd on Mr. O. C. Barber's Anna Dean Farm, of Ohio.

SAVING ON WINTER FEED

In Walworth County, Wis., there are more farmers' clubs and associations than in any other one county in the state. Recently the dairymen of this region organized several cow-testing associations. The members of one of them discussed and put into effect the plan of buying a winter's supply of feed in advance for spot cash. They received it by the car load and distributed it among themselves according to their needs. The winter price of the feed amounted to $3,640, but the contracted for it at the summer price which was $3,005. Deducting the interest on the money advanced at 6 percent, there was still a saving of $544.85.—J. L. Graff.

Farmers and Labor Unions

Points of Difference and Divided Interests

In last week's issue we published extracts from a speech made by Hon. Gifford Pinchot, on the relation of farmers to Labor Unions. Following are extracts from a speech by O. L. Martin, former Secretary of Agriculture of Vermont, given before the National Founders' Association. Mr. Martin brings out some most interesting facts on the relationship of Labor Unions to agriculture in the past. We publish the two because they present thoughts on two sides of a question to which farmers must give consideration in the future:

In these days of war the individual must subordinate himself to the needs of the community and of the nation. The same is true of the farmer, the manufacturer, the financier, the worker, everyone. The watchword is co-operation. It is no longer merely a plausible theory. It is a hard fact. Without co-operation we cannot hope to succeed.

There is every natural relationship between the farmer and the manufacturer. We are large purchasers of the things which you gentlemen produce. Your product today is as necessary to us as our product is necessary to you. Your problems are of necessity of direct and vital interest to the farmer. When your cost of production is forced up we help to pay it. When you can not deliver your goods we are among the sufferers. When agitation, unrest, discontent, strikes and violence disturb industry, we are seriously affected. Your troubles are therefore our troubles and for that reason I am heartily in favor of a closer co-operation between the farmers and industry, leading to a better understanding, and I am free to say, to an offensive and defensive alliance in the interest of peace and prosperity.

We are all interested in the labor problem. It is today of grave concern to every farmer. The farmer has always been sympathetic with the workers in their efforts for just treatment, but the farmer is equally opposed to arrogance and injustice, whether from the worker or the capitalist. We have watched the growth of organized labor, at first with curiosity, then with a certain amount of sympathy and lately with apprehension and distrust. We have helped organized labor to win legislative battles. We have given help in many ways. But today we are counting up the result. We find that we have helped dig a pit for the farmers, and that the sympathy which we extended to the unions had better be saved for ourselves.

What has the farmer secured in return for his assistance in immunizing labor unions from the law? His greatest reward is the threat of a universal eight-hour day, which would bankrupt him in short order. Another reward is the disturbance of industry, making for increased cost of everything the farmer buys. A further reward was an earnest effort on the part of labor leaders to depress the price of wheat and other products of the farm. Thus are we well rewarded for our lack of foresight, for our acceptance of glib promises, for our following of a will-'o-the-wisp of exemption from the law.

It is necessary to point out that the eight-hour day is an absolute impossibility on the farm. Any attempt to enforce an eight-hour day in agriculture would lead to more abandoned farms than even you can reckon. The farmer has hundreds of problems. He is dependent for success every year on two things: Hard work and the mercy of Providence. He may plan and plan, but a spell of rain will make all his plans abortive. He may sit down and figure that over a period of a year his help works only an average of eight or nine hours. But what good would eight hours a day do him in seed time and harvest?

Let me ask you to understand the position of the farmer in this question of labor, agriculture, industry and capital. In the reports of the National Grange Convention of 1894, twenty-three years ago, you will find the following:

"If labor is to be employed at good wages, capital must be allowed a fair percent of profit, and the farmer fair prices for his produce. Conditions which do not permit both will react to the injury of labor. Patience and mutual concessions will always prove wise. The law must be respected and observed by capital and labor. If unjust to either, the farmer will help to secure amendment. Let us have peace and prosperity and an era of good will among all classes."

That is a simple gospel, and easy to follow. The farmers may have erred in not following it more closely in helping to develop the spirit of co-operation. The farmer today sees his mistakes and he has paid for those mistakes. The farmer's natural alliance is with industry. The farmer pays more for his transportation because of the Adamson law. He pays more for his machinery because of the eight-hour day. He pays more for everything he buys or uses. You may say that he gets more for what he sells. But does he in the net? He does not because the proportionate advance for the things which he buys is greater than the advance for the produce which he sells.

The farmer today is called upon to produce, produce, produce. He answered that call promptly as the figures of the last harvest will show you. He is told that he is the most important factor in the war. Undoubtedly that is true. But it does not make him arrogant or greedy. He has not gone on strike for higher prices. He has not held a gun to Uncle Sam and told him he would have to fight on an empty stomach unless he paid an exorbitant price. He has asked nothing but fair treatment and asked for that without threats. But is he entitled to no recognition beyond happy phrases and eulogistic letters?

The farmer is entitled to further recognition. How many farmers are in Washington on the Advisory boards? How many farmers are on the Federal or State labor boards? How many actual farmers have a voice in shaping the Government's

I have said enough on this question. You may infer that despite our outward calm there is something that rankles. Well there is, but we will do our best to forget it lest it interfere with our doing our bit in the war. Let me just say in conclusion that the day has arrived when the farmer realizes the community of interest between himself and the manufacturer.

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Live Stock

GETTING MOST OUT OF THE CORN CROP

(Continued from page 1.)

one may be fed if it is not convenient to combine the two. A mixture of 150 pounds cottonseed meal and 100 pounds oilmeal makes a desirable combination for beef cattle when corn silage is not available. The mixture or either one should be supplied at the rate of 2½ pounds per 1000 pounds live weight of steer daily.

Bundle corn may be fed to sheep but the results are not so satisfactory as when fed to fattening cattle. The crop may be handled in this way for swine and they will consume all the corn and part of the husk, but very little of the stover will be utilized as other live stock will not eat it after being tramped over by swine. The beef breeding herd can be maintained in splendid condition when fed a small amount of bundle corn and some other stover or good hay in addition. A small allowance of concentrated protein should be supplied in addition.

When cattle are fed without silage and the corn is husked it is a good plan to feed it sparingly at least during the early part of the feeding period. A ration made up of mixed hay, corn stover as roughage and from 10 to 12 pounds of broken ear corn, or corn and cob meal and about 2½ pounds of cottonseed meal or oilmeal or a mixture of the two for each 1000 pounds live weight makes a desirable combination during the early part of the feeding period. Later in the feeding period the amount of corn should be greatly increased.

Refilling the Silo

There are many farms where only a part of the corn crop can be stored in the silo during the silo-filling period. The silo may not be of sufficient size to make possible the liberal feeding of silage to all the live stock on the place. This difficulty can be readily overcome by refilling the silo during the winter with shock corn from the field. Field corn out of the shock makes a splendid quality of silage if properly handled. The corn is cut in the same manner as when the silo is filled the first time, except that it is necessary to add a considerable amount of water so that the contents of the silo are thoroly saturated. If the material remains dry there is danger of it spoiling in the silo. Corn handled in this way saves the labor of husking and also puts the entire crop in a more palatable form as a feed.

Protein Supplement

The corn plant is largely carbonacious in character and does not make a desirable feed for live stock when fed alone. It must be properly balanced with some protein feed in order to get the most out of the corn. The digestible nutrients in 100 lbs. of corn are about as follows: Protein 7.5 lbs; carbohydrates, 67.8 lbs; fat, 4.6 lbs. This gives it a nutritive ratio of about 1 to 10.4, which is wide for any class of live stock. The composition of the plant is not improved by the addition of the stover, as it contains the following digestible nutrients in each 100 lbs.: Protein, 2.1 lbs; carbohydrates, 42.4 lbs. and fat 0.7 lb., which gives it a nutritive ratio of 1 to 21. In addition to having a wide nutritive ratio the protein in the corn is of poor quality as it is not properly balanced. Corn also lacks in mineral matter, especially calcium. Thus, in order to utilize the corn crop, either the grain or the stover, to good advantage it must be supplemented with a protein feed.

The Fall Clean-up With Lime and Disinfectants

For Hogs.—Feeding trials conducted at various experiment stations show the importance of feeding protein feeds with corn. A swine feeding test at the Kansas Station gave the following results: Hogs fed a ration of 10 parts shelled corn and 1 part tankage made a daily gain of 1.41 lbs. and consumed 4.54 lbs. of grain to make one pound of gain. A lot of hogs fed corn alone made a gain of 0.44 pounds per head daily and consumed 7.70 pounds of corn to make one pound of gain. With corn at $1.06 per bushel and tankage at $64 per ton, the cost of making 100 pounds of gain in the tankage lot was $9.11 while in the lot where no tankage was fed it cost $14.60 to make 100 pounds of gain. This shows the importance of properly supplementing the corn with a protein feed.

For Cattle.—The same condition holds true when corn is fed to cattle. At this same station a feeding demonstration was conducted with calves. One lot was fed shelled corn and prairie hay and another lot was fed the same ration but supplemented with oil meal. In the lot where no oil meal was fed it required 679 lbs. corn and 489 lbs. hay to make one hundred pounds of gain, while in the lot where oil meal was added it required 492 pounds corn, 75 pounds oil meal, and 265 pounds of prairie hay to make 100 pounds of gain. The cost of making 100 pounds gain in the shelled corn and hay lot was $14.56 while in the other lot it was $11.66, or a difference of nearly $3 per 100 pounds because of properly balancing the ration.

For Sheep.—An unbalanced ration of corn and timothy hay fed to sheep gave a daily gain of 0.19 pound. It required 497 pounds of corn and 547 pounds of hay to make 100 pounds gain while a ration of corn and clover hay brought a gain of 0.32 pounds per day and required 340 pounds of corn and 475 pounds of hay to make 100 pounds of gain. In every case where corn is fed and properly supplemented with a protein feed the results are better and far more economical, even tho the protein feeds seem to be high in price.

Grinding Corn

The question of grinding the corn depends upon the live stock to which it is to be fed and the expense and labor involved in grinding. When whole corn is fed a considerable amount passes thru in an undigested form especially with cattle. There is a considerable loss unless hogs can follow the cattle and consume the wasted grain. This method of feeding is not practiced with dairy cattle and for this reason the corn for this class of live stock must be fed as corn meal or corn and cob meal. When feeding beef cattle the corn need not be ground if hogs are allowed to follow the cattle.

With the prevailing high price of corn there is some excuse for grinding it because the increase in the cost of the feed is not as much as the increased feeding value of the ground corn. When corn is cheap the cost of grinding is not recovered in the increased returns from the feeding operation. Hogs may be fed ear corn until the grain becomes hard and dry, after which they will do better on corn meal. Corn and cob meal should never be fed to hogs unless no other bulky feeds are allowed or when fed to brood sows that need some additional bulk.

Soft Corn

Nearly every farmer has a considerable amount of soft corn. This corn can not be marketed and in many cases can not be stored in the crib. It becomes necessary to dispose of this in some way early in the year. It can be used to best advantage as a feed for swine or cattle. Soft corn usually contains a high percentage of moisture but its feeding value on the basis of dry matter is nearly equal to that of mature corn. It will be necessary to feed it in larger amounts than well-matured corn and it may also be necessary to feed it more often, because the animal while consuming a greater amount of bulk does not get sufficient nutrients to last until the next feed. It must be properly supplemented with a protein feed to get full value.

It is possible to save on the total amount of corn used if it is properly handled. Supplementing it with protein feeds for all classes of live stock is one of the most important factors. The use of roughage to a large extent during the early part of the feeding period in beef production and the careful and judicious use of the silo will help to get the most out of the corn crop now available.

PORK ON HIGH PRICED FEEDS

The higher the price of grain the more care is required in feeding operations. It is not profitable to feed corn alone. It should be supplemented with some feed like tankage or linseed oil meal. Tankage has perhaps received more attention by practical feeders during the last few years than any other protein supplement. Its composition makes it almost an ideal supplement to corn for hog feeding. The high protein content, derived from an animal source, along with a high mineral or ash content makes it particularly valuable when fed with corn, which is noticeably lacking in these nutrients. Experimental data reported shows that tankage is in every way one of the best supplements to corn for hog feeding.

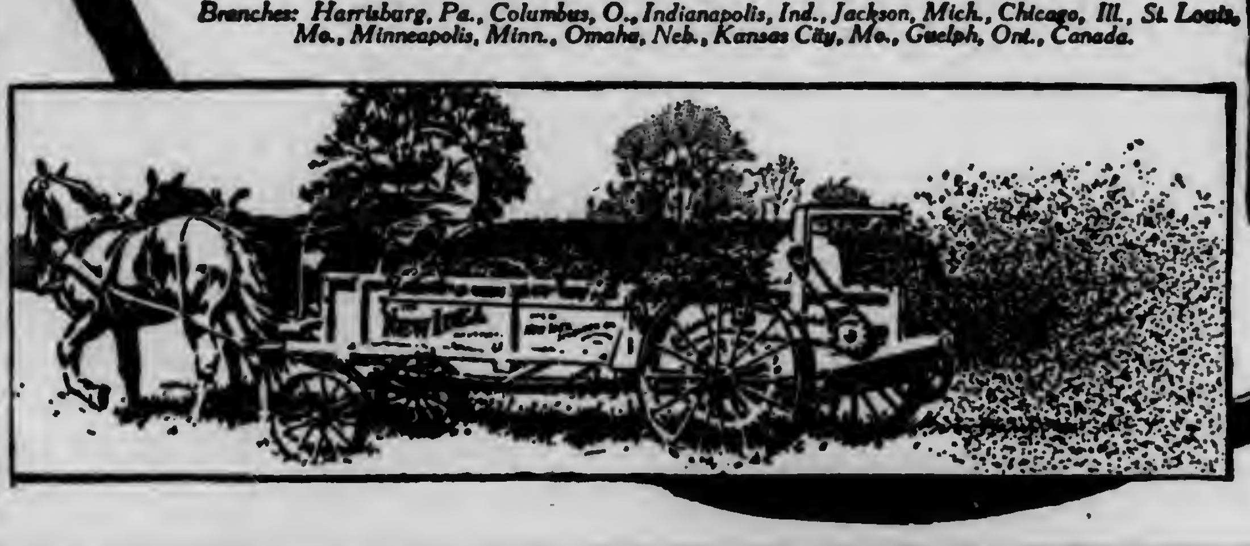
Experimental work shows that better results are obtained with the breeding herd when some tankage or meat meal is added to a corn ration. Not only are more pigs farrowed per litter, but those farrowed are stronger. It has been found for example that gilts fed corn alone farrowed an average of 7.6 pigs per litter as compared with an average of 8.5 farrowed by the gilts fed a ration of 10 parts corn, 1 part tankage or meat meal. Sixty-eight percent of the former were strong as compared with ninety-eight percent of the latter.

Not only does the addition of some feed like tankage increase the efficiency of the breeding herd but it also materially decreases the time required to get the pig to a marketable weight. This is shown in a list at the Missouri Experiment Station where one lot of hogs for 120 days on a ration of 10 parts corn and 1 part tankage gained on the average 1.15 pounds per head per day, while a similar lot fed on corn alone gained only 1.11 pounds. This would indicate that it would require about a month longer to make a 100-pound shoat weigh 250 pounds, if corn alone was used as the ration than when a ration of corn and tankage was used. In the trial mentioned above, it required 436.4 pounds of corn plus 43.6 pounds of tankage to produce 100 pounds gain on the one hand as compared with 580 pounds of corn where corn alone was used. These results are reported in Bulletin 136 Missouri Experiment Station, at Columbia.

PUREBREDS VS. GRADES

An interesting comparison of purebreds and grades was recently made in boys' and girls' club work in a certain middle-west state. A local bank made a proposition to bring in 50 purebred Shorthorn heifer calves to distribute among the members of the local club. These heifers were appraised and the purchase price charged against the club members. At the close of the feeding period the animals were to be sold at public auction and the boys and girls given the difference between purchase and selling prices. In case of a loss the member caring for such animal was to make good the loss. A rival bank duplicated this offer, but brought in grade heifers instead of purebreds.

The auction sale of animals was recently held. The grade animals sold at an average of $65 per head. A week later the purebreds were sold. They had cost an average of $117 per head, but they sold at an average of $235 each, and netted the club members an average of $118 each.



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The Way Out

There are two ways to attack this situation (which threatens to be more acute than ever in the winter of 1917). 1. By raising wages in all industrial employments; 2. by cutting down the prices of food stuffs.

Employers were not willing to raise wages, and the Government has taken over most of the wage-fixing function. Food prices would not lower themselves; so, after months of bickering, we have Herbert C. Hoover. He proposes to attack his problem: (1) By cutting out waste; (2) by stimulating greater production; (3) by efficientizing our distributive system.

The first of these involved the patriotism of many housewives, but it also involved their education, for it has not been so many years that the American housewife has been on speaking terms with the calorie, proteins and carbohydrates and physiological function of fats. When Mr. Hoover is thru not all housewives will have learned to feed families adequately without waste, but a tremendous number will have learned; and all such converts are a net gain to the nation.

The second—the stimulation of greater production—was not very successful tho it has had its results. A year of almost normal crops has, however, saved the day and with correction of distributive faults we may hope to have food here at home and still feed our soldiers and our Allies.

It is to the third of these Hoover points that the Pennsylvania Rural Progress Association is directing attention. Who is this middleman; what are his legitimate functions; what does he do that he ought not to do; is it he who is responsible for the great gap between the price the farmer gets and the price the consumer pays; what, in reality, is this gap—how much does the farmer get, and how much does the consumer pay?

For all these questions an answer is needed immediately. An investigation has been attempted. The results will be permanent. There is to be a body of facts, gathered at the sources, which will indicate on the one hand what the farmer gets and on the other what the consumer pays. They will be gathered over a period of years, so that for Pennsylvania we shall always know who gets the consumer's dollar.

But this is the program of the future. Facts are needed now and the writer was asked to gather them by Mr. Gifford Pinchot who is the President of the Pennsylvania Rural Progress Association. There is always danger of hasty conclusion, which leads to trouble in the Social Sciences. And the writer has endeavored to confine himself to those conclusions which seem to him inevitable in view of the facts at hand. Needless to say, the investigation could have had no result worth while had not the writer had the valuable advice and assistance of Dr. Clyde Lyndon King of the University of Pennsylvania, Mr. A. J. Anderson of the Pennsylvania Farmer, Dr. Bruce D. Mudgett of the University of Washington, and of many county agents and voluntarily assisting investigators.

The Problem

The purpose of the investigation was to determine the actual divergence of producers' and consumers' prices, a matter over which there has been much speculation and bitterness; and little real attempt to discover the truth.

Supplemental to this there was another purpose—to discover where the consumer's dollar goes—the increments added to price at each step in the distributive system.

Five points within the state were arbitrarily chosen and investigations were carried on in the field. The literal report of these findings will follow. The points selected were: Erie, Erie County; Philadelphia, Chester County; Pittsburgh, Allegheny County; Wilkes-Barre, Luzerne County; Harrisburg, Cumberland County.

Inquiry was made of farmers as to prices received for produce and, when possible, the actual shipment was traced into and thru the market. Where this could not be done, either because of timidity on the part of the shipper, hostility on the part of the jobber or commission man, or actual inability to trace because of transportation complications, the produce was carefully graded and then the investigation was carried into the market where consumers' prices were noted for the same grades. In this way the channels of trade under the present system could be followed and defects noted, and the divergence in price could be discovered.

Retail Prices in Pennsylvania

My experience had been, in this and many former investigations, that retail prices for Philadelphia range somewhat lower than for most cities of the country. The reason lies in the situation of the city. Toward the south is the great productive spread of the Piedmont region with fertile soil and heavy rainfall. The whole of this region from the mountains to the sea is well suited to the raising of small fruits and vegetables such as this particular investigation is most interested in. These products, seeking a market, are sprayed out thru Philadelphia toward the industrial centers of the north, and Philadelphia enjoys the benefit of having first choice of all the markets of the north. This comparison stands out quite clearly when figures are cited to compare Philadelphia with another market. Prices for the following table, for instance, were made within a week. Five commodities have been chosen at random and grading carefully done.

Comparison of Retail Prices for Farm Produce in Pennsylvania Cities

	Phila.	Pittsburgh	Harrisburg	Erie	Wilkes-Barre
Tomatoes, ⅝ bu.	$ .85	$1.00	$ 90	$ .95	$ .90
Green corn, doz.	.22	.35	.30	.32	.28
Potatoes, peck	.45	.50	.48	.47	.47
Onions, peck	.44	.55	.50	.52	54

From the consumer's point of view this is an advantage, but it means to the farmer that Philadelphia is a relatively poorer market than Pittsburgh, Harrisburg, Erie or Wilkes-Barre.

From the same point of view it may be said that the markets range as follows classified according to their advantage to the farmer: (1) Pittsburgh; (2) Erie; (3) Harrisburg; (4) Wilkes-Barre; (5) Philadelphia.

This judgment must be modified, however, by the greater selling facilities afforded by some markets in comparison with others.

None of the cities can compare in this respect with Lancaster, York and some other like-sized cities where real farmers' markets are encouraged in a practical way. Harrisburg is perhaps best. Among the others there is little to choose; all are uniformly poor and conducted in a manner tending to discourage the most persistent farmer-retailer. Market places, where they are provided at all, are pre-empted by hucksters and professional stall-renters; city ordinances are so framed that farmers are not only not encouraged to market their own produce, but are actually placed at a disadvantage; market houses are owned privately and run without adequate inspection or city supervision, usually because of a lack of adequate appropriation by city councils.

In all of the cities the farmer is completely at the mercy of the highly-organized commission men, and there can be no relief without an adequate and forward-looking food-distribution policy newly undertaken by public municipal experts.

Let me here insert, for the sake of illustratio a leaf from my note-book written immediately after my visit to Erie late in August (1917).

Observations on Erie's Market

"This morning was selected for the close observation of the so-called Public Market on State Street, which is public only in the sense that anyone can rent a stall so long as they last. The Market House is owned by a private company (not by the city) to whom the revenue from its goes.

"As a matter of fact the inside stalls are mostly rented by professional sellers and hucksters other than farmers, who being occasional renters do not have the more favorable locations even when they choose to sell inside.

"Retailing by farmers is done outside—a city ordinance permits them to use the curb. On this morning there were 20 farmers selling produce at retail. It struck me as very curious that the farmers should be lined up, not in the same square with the Market House, but in the one above. Upon inquiry I was told that the more favorable locations immediately adjoining the covered market were occupied by the professional hucksters who purchased from the less favorably situated farmers and sold from their own wagons at an increased price. What they do not sell during the early morning hours when the greatest numbers of consumers come to the market is disposed of later by selling from house to house. These hucksters obtain their favorable positions by the simple expedient of arriving first, the farmers having the disadvantage of something to do at home and the task of hauling the produce to town. When the farmer arrives the huckster buys him out, loads up his own wagon in the next square and sells at an advance in price.

"I have never seen a more useless piece of distributive machinery. The fault is not anyone's apparently, it is due to a laxness in city control over this important function as well as to the indifference of the consumer. These points are illustrated in the following cases:

I.—"A brought 80 baskets of peaches to market in 4-quart (grape) baskets. He stood at the farmers' curb 45 minutes during which time his price ranged downward from 45 to 35 cents. He sold only 7 baskets.

"B, a huckster and stall-renter, came along; after some dickering A sold him the peaches at 31 cents. The peaches were taken into the market house and part of them exposed for sale. These sold for 50 cents, the price later ranging up to 60 cents. The part not sold this way (about 20 baskets) went out in the huckster's wagon. Rise in price, 75 to 100 percent.

II Erie.—"A brought to market 11 crates of blackberries. He secured a stall and sold 3 crates at 18 cents; 8 crates were sold to stall-renters for 15⅝ cents, who sold them at 18 to 20 cents. Rise in price, 2⅜ to 4⅜ cents per quart.

"These were fine berries. Other berries not so good were selling at the same time for 19 and 20 cents in the same market house.

"The Public Grocery Supply Co., 1509 State Street, (a cash grocery) was selling berries inferior to these at 20 cents.

"The Mohican Co., at 1203 State Street, were selling also inferior quality in baskets not wholly filled at 21 cents.

III Erie.—"A brought 14 bushels of ungraded new potatoes and sold them without difficulty to consumers and stall-renters at $1.75 per bushel. These were sold by stall-renters at 45 cents a peck ($1.80 per bushel). Advance 5 cents per bushel.

"The same price was noted for slightly better grade at The Public Grocery Supply Co.

"At the Mohican Co. the same quality of potatoes sold that day at $1.88 per bushel. Advance 13 cents per bushel.

(Continued next week.)

THE STANDARD BARREL LAW

The Bureau of Standards in the Department of Commerce has issued instructions and definitions for the enforcement of the Standard Barrel Law passed in 1915. This law specifies the dimensions and capacity of barrels for the shipment of fruits, vegetables, and other dry commodities; the only exceptions being lime and cranberries which have special barrel regulations. Every shipper should send to the Bureau of Standards, Washington, D. C., for a copy of Circular No. 71 which gives the necessary information for shippers. It should be understood that it is unlawful to ship dry commodities in any other kind of barrel. The standard barrel holds 3.281 bushels, or 105 quarts. Provision is made for ⅔ barrel, ½ barrel, ⅓ barrel also.

Manure is worth more now than ever before. At the present prices for farm products, the agricultural value of manure is estimated at $4 to $6 per ton. No thrifty farmer will waste a forkful of stable or feed-lot manure this year but he will get it all back on the land as quickly as possible.

Grange

"WAKE UP THE GRANGE"

Pennsylvania Farmer of October 27 says, "Wake up the Grange". Yes, also the Dairymen's League and all pull for a National organization of food stuff producers. Look at the Big 4 Brotherhoods of railroad men, 200,000 strong, demanding another 20 percent increase in wages, and contrast the action of U. S. Senate last fall when the Senate forced railroads to grant their demands; and the recent action of the Massachusetts Food Administration on October 1st in requiring Boston milk producers to "show cause", and forbidding any increase in price until after October 15; also, contrast first mentioned case with action of state authorities at Chicago when milk producers were indicted for violating anti-trust laws.

The Big 4 Brotherhoods gained another victory on November 9 when New Jersey State Board of Public Utility Commission denied the Central Railroad of New Jersey permission to modify the full crew law. This law requires 5 men on trains to do work that 2 men did for years previous to passage of law. This application by railroad company was vigorously fought by representatives of trainmen. Why not an organization of farmers strong enough to take the same stand; strong enough to have a representative like Mr. Gompers at Washington?—A. R. S., Tompkins Co., N. Y.

P. S.—Why doesn't our Secretary of Agriculture Houston get busy? A number of railroads have their section men pulling and cutting weeds along the tracks to improve looks of their property while farmers' corn stands uncut and potatoes not dug for want of laborers. Why not take this matter up with the railroad board at Washington and get a little co-operation?

NATIONAL GRANGE OFFICERS

The following were elected officers of the National Grange at the late meeting of that order:

Oliver Wilson, of Peoria, Ill., reelected president of the National Grange, Patrons of Husbandry. He has already served three terms of two years each. Other officers are: Overseer, B. John Black, Roslyn, Md.; lecturer, John G. Ketcham, of Hastings, Mich.; steward, A. L. King, of Omro, Wis.; assistant steward, John Morris, Golden, Col.; chaplain, W. E. Deal, Nampa, Idaho; treasurer, Mrs. Eva S. McDowell, of Wellesley, Mass., and secretary, C. M. Freeman, of Tippecanoe City, O.

WANT NITRATE OF SODA

Whereas, The United States Government seems very much concerned about the food supply of the world in the near future, and

Whereas, The farmers are anxious to co-operate in a large production of farm products, thereby helping to feed the world, and also that they may reap a reasonable profit for themselves, and

Whereas, The use of a liberal amount of commercial fertilizer is absolutely necessary for the production of satisfactory crops, at least in the East, and

Whereas, The price of fertilizers and fertilizer materials promises to be unreasonably high, if not absolutely prohibitive, for the spring of 1918.

Therefore Be It Resolved, That it is the sense of this Grange, Rancocas No. 131, of 362 members, composed of progressive farmers of the United States Government, to import nitrate of soda and sell it to the farmers and fertilizer trade at a reasonable and normal price, thereby cheapening all forms of ammoniates, and hence all fertilizers, so that the farmers of the country will plant a maximum acreage and produce a maximum crop the country over for the season of 1918.—Miss Elsie L. Pew, Sec.

Among the Granges

Clearfield Co., Pa. — Pomona No. 33 was held in Mechanic's Hall, Clearfield, November 22. After the routine work of appointing ing committees G. B. Wachob spoke of the field meeting at Marion Center, also the dairymen's auto trip to Grove City government creamery in Mercer County and their value to the farmers who took part.

Hon. Peter Gearhart discussed the question of solving the farm help problem for 1918. Next to the conduct of the war the question of feeding the people appears to him as the greatest one before us, and the question of farm labor is the hardest one to solve. Mr. Gearhart is the farmer member of our District Exemption Board consisting of 16 counties in Western Pennsylvania and his board has so felt the importance of all possible help to produce food, that so far as known no practical farmer or farmer's son needed on the farm, who made the proper application, has been refused exemption.

After dinner in the basement of the Hall the question taken up was "Is it or is it not an economical practice to install up-to-date equipment for the household?"

This was discussed by a number of members and the general concensus of opinion was that, particularly under the present shortage of labor both indoors and out, it is an economical necessity that the household should be managed with the least hand labor and the greatest efficiency possible.

The question "What can the Grange do to make the County Fair more of an Agricultural Exhibit," came up for discussion. Mr. A. T. Kearney outlined somewhat the permanently valuable things to be sought for in holding a Fair. Others spoke of the shortage of labor this year as deterring farmers from being able to make exhibits. The farmers were advised not to give up, but to make the best efforts possible to make the Fair's agriculture features the best possible next year. It was also recommended that we go after the Fair for the social and educational features as well.

Debate question: Resolved, "That the happiness and prosperity of the people depends more upon honest and efficient local officers than upon the national officers." Affirmative S. C. Read and Mrs. Lottie Kline. Negative F. B. Lee and Mrs. W. E. Davis. The judges decided that the affirmatives had the best of the argument.

On motion $5 was donated to the Y. M. C. A. to be used as they think proper.—T. L. W.

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Redskin Shoe. Serviceable, comfortable and dependable.

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White—Pure white rubber in Snag-Proof quality—Steam cured in vacuum, designed for extreme severe service.

You should find Lambertville Footwear for sale at the best store in your locality. Not all stores sell the Lambertville line because we limit the sale to merchants who value a satisfied customer above a quick profit. If you do not find a dealer near you, write us direct and we will see that you are supplied.

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common kerosene (coal oil), no odor, smoke or noise, simple, no pumping up, no pressure, won't explode. Tests by U. S. Government and thirty-five leading universities show the Aladdin gives three times as much light as best round wick flame lamps. Won Gold Medal at Panama Exposition. Over three million people already enjoying this powerful, white, steady light, nearest to sunlight. Guaranteed. And think of it—you can get it without paying out a cent. All charges prepaid. Ask for our 10-day Free Trial Offer and learn how to get one free.

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TWICE THE LIGHT ON HALF THE OIL

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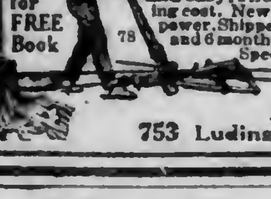

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No horses needed—no extra help required—one man alone pulls all kinds of stumps quick and easy. The Kirstin holds record for lowest land clearing cost. New patented features gives enormous strength and power. Shipped on actual 30-day Free Trial—3-Year Guarantee and 6 months to pay proposition. Get Big Free Book and very Special Offer on One-Man and Horse Pullers—all sizes.

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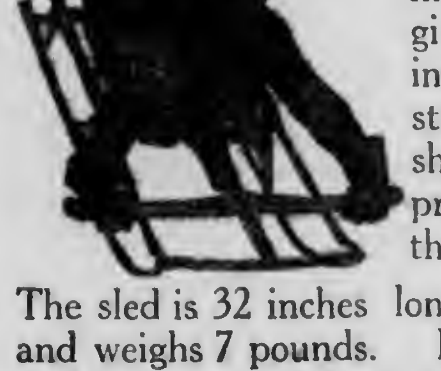
The Fire Fly Coaster



is a real "Snow-Mobile" which means "heaps of fun" for boys and girls. The high grade construction insures flexibility and accuracy of steering, no more wet feet and worn shoes from stearing. It will help to prevent cold and dreary days inside the house.

The sled is 32 inches long, 6 inches high, 11 inches wide and weighs 7 pounds. It is very attractive in appearance and is so strongly built it will out-last 2 ordinary sleds.

HOW TO GET A FIRE FLY COASTER

Send us only 3 subscriptions, either new or renewal, to Pennsylvania Farmer for the balance of this year and all of next or to Jan. 1, 1919, at 75c each and we will send you a genuine Fire Fly Coaster prepaid.

PENNSYLVANIA FARMER, 261 S. Third Street, Phila., Pa.

Household

HANDSOME UNDER-WAIST

Any girl or woman will be delighted with a Christmas remembrance like this corset cover. It is made of ordinary Valenciennes insertion crocheted together with No. 50 thread in connection with novelty braid. And altho it seems quite elaborate and complicated, it "makes" quite rapidly.

Measure off 12 sections of the novelty braid for half of the front. Fasten on thread and make 3 dc in 1st loop of braid. Skip one loop and go in third dc with 3 dc; skip one loop, and repeat three times, or for length of braid if larger than a forty waist is desired.

Make for sleeve 21 sections, leaving 10 loops for under part. Crochet around the same as for the front. Join to front.

Make 16 sections for back. Crochet around the same as front. Join to sleeve in 10th loop. Make second front. After sections are joined, start at bottom and chain three, then join in second loop of straight running braid or insertion. Chain 3 and join in first cluster of 3 dc in the first section. Chain 3 and skip one loop in straight braid. Repeat around entire yoke.

Handsome Under-Waist

Top of Sections. — Chain 3 and catch in 1st loop of straight braid and repeat as above.

Top of Straight Braid or Insertion. —Chain 5, 1 dc in 1st loop; ch 2, 1 dc in 2d loop; 1 dc in next loop. Ch 2, skip 1 loop with dc, 1 dc in next loop; 1 dc in next loop, 1 dc; ch 2, 1 dc in next loop, 1 dc in next loop. Repeat across entire yoke.

Ch 5; 2 tc (thread over needle twice) in second chain; ch 2, 1 sc in between next two stitches. Repeat for entire row.

Ch 5, 13 double trebles (thread over three times) in second chain; 1 sc between next treble. Repeat for all of row

Ch 5, 1 sc between each stitch, chaining 5 between each double crochet. Finish outer edge of sleeve same as top of yoke. — Esther A. Cosse, Passaic Co., N. J.

HOMEMAKING ON A JUNIATA COUNTY FARM

We are surely glad to learn of the success of the Westmoreland County farmer's daughter with her canning. It is always an inspiration to us to come in contact with people who are doing their best—and helping to bring from us our best, and getting out of life the best. We have been traveling the agricultural road for 20 years, and had small beginnings, and how we do enjoy exchanging ideas with those who have kept pace with the same trials, same hopes, same successes.

An uncle once said to us, "It takes a lifetime to improve a farm". We thought he talked queerly. That was when we began, and thought that ten years would find us on "easy street". But we didn't look forward to sickness and losses, so here we are after 20 years, and our ambitions are just the same, always something in view to repair, or build or do. We really think that even a lifetime may not perfect our plans. To have a surplus to see our children thru their ages of development, and not have them stunted in mind or body, we must manage to do all we can. It takes days and weeks and years to accomplish all.

I find the Westmoreland Co. lady doing just what the women in our vicinity do—the good women—cooking, sewing, gardeneing, housework, flowers. It wouldn't be home without flowers. I even can them—in quart tin cans. Puzzled, are you? Between our farm and our town is a dump pile of household rubbish. We stop there in the spring and select a lot of good-sized tomato cans. From these I select my flower cans. I paint the moss green, and put my plants in them for winter so that they are in blooming order when brought in the house—always having a geranium, a fuschia, a petunia or some blooming plant to keep in the window, and always one by the desk of the man of the house. I not only paint the cans green, but as that is our standard color to paint odds and ends—the churn, the tubs, the old stumps of pine or native trees in the yards so we can set a pretty pan of green vines on them, the hitching posts, and any little thing that needs paint. Husband has always given me ten cents per barrel for keeping the barrels in order, so I see that the barrels usually look like "new housekeeping". I learned this kind of thrift from my thrifty mother.

I handle all poultry money; husband handles the milk money. This milk money goes to pay farm hands and upkeep of his business end. We sell side-meat and buy sugar with that money, and if that does not run us, we get more. He provides flour and butter, and is always a generous provider wherever the need arises.

I sold my old hens during the Jewish holidays. They brought me 25 cents per lb. for culls, and 27 cents per lb. for the best ones; young roosters, the same. Last year I sold over $100 worth of poultry. Hope to do as good or better this year. I use the money to provide extra things for the table, clothing for common needs for every member of the family, each year an addition to the linen closet, such as a sheet or two and two pairs of pillow cases of regulation size, my size being 42 by 36 inches long. I buy two or three inches more, thus allowing for shrinkage. It is really wonderful how many things we can supply out of poultry and egg money. I have my own household tools, and often find a man running to "mother's" regulated box of nails, which is just an old box with a lot of tin cans fitted in, filled with a variety of nails, from eight-penny wire and finishing nails down to egg-crate size and even smaller finishing nails, as I often "need them in my business".

While we are now getting a good price for poultry and eggs we must manage carefully just as we always have, for everything costs in proportion just as it always did. We do not find fault with present cost of things as we are getting twice as much for eggs and a lot more for poultry than we did two years ago. We just need to be careful of the dollar invested to get just as good returns as we used to get.—Juniata County Farmer's Wife.

A BIT OF LACE FOR A GIFT

Rose Filet Insertion

This will make an acceptable gift to the mother who has little time for making home-made trimming, which wears so much better than factory made

Chain 54.

1st Row.—1 dc in fourth ch from needle, 2 dc in next two stitches; 15 spaces, 4 dc; turn.

2d Row.—Ch 3, 3 dc, 7 spaces; 4 dc; 1 space, 7 dc, 4 spaces, 4 dc; turn.

3d Row.—Ch 3, 3 dc, 4 spaces; 10 dc, 1 space, 13 dc; 3 spaces, 4 dc; turn.

4th Rdw.—Ch 3, 3 dc, 2 spaces; 7 dc, 1 space, 10 dc, 1 space; 10 dc, 3 spaces, 4 dc; turn.

5th Row.—Ch 3, 3 dc, 1 space; 13 dc, 1 space, 10 dc, 1 space; 4 dc, 1 space; 4 dc, 2 spaces; 4 dc; turn.

6th Row.—Ch 3, 3 dc, 1 space; 4 dc, 1 space; 4 dc, 3 spaces; 10 dc, 1 space; 10 dc, 1 space, 4 dc; turn.

7th Row.—Ch 3, 3 dc, 1 space; 10 dc, 1 space; 7 dc, 1 space; 7 dc, 1 space, 4 dc, 1 space; 4 dc, 1 space. 4 dc; turn.

8th Row.—Ch 3, 3 dc, 1 space; 7 dc, 1 space; 19 dc, 1 space; 7 dc, 2 spaces, 4 dc; turn.

9th Row.—Ch 3, 3 dc, 1 space; 13 dc, 1 space; 22 dc, 2 spaces, 4 dc; turn

10th Row.—Ch 3, 3 dc, 3 spaces; 16 dc, 1 space; 7 dc, 4 spaces, 4 dc; turn.

11th Row.—Ch 3, 3 dc, 3 spaces; 13 dc, 1 space; 10 dc, 4 spaces, 4 dc.

12th Row.—Ch 3, 3 dc, 7 spaces; 7 dc, 1 space; 7 dc, 3 spaces, 4 dc.

13th Row.—Ch 3, 3 dc, 3 spaces; 25 dc, 4 spaces, 4 dc.

14th Row.—Ch 3, 3 dc, 5 spaces; 7 dc, 1 space; 10 dc, 4 spaces, 4 dc.

15th Row.—Ch 3, 3 dc, 5 spaces; 7 dc, 8 spaces, 4 dc.

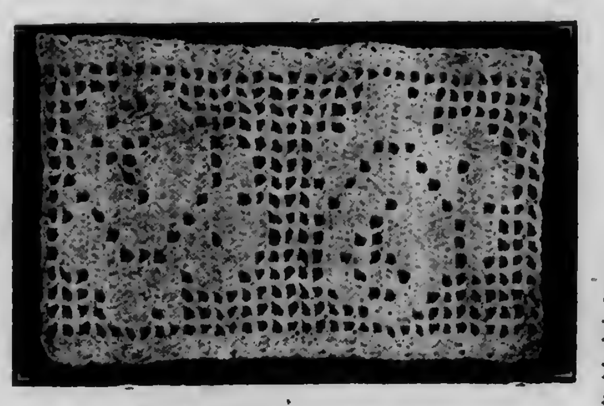
16th Row.—Ch 3, 3 dc; 15 spaces, 4 dc.

17th Row.—Like 16th.

18th Row.—Like 17th.

19th Row.—Ch 3, 3 dc, 7 spaces; 4 dc, 1 space; 7 dc, 4 spaces, 4 dc.

20th Row.—Like 3d; 21st row like 4th, and so until second rose is completed. Repeat from first row until lace is desired length.—Ruth McSparran, Lancaster Co., Pa.



Rose Filet Insertion

SUGARLESS FRUIT CAKES

These recipes omit sugar, thereby conserving an important food, of which both America and the allies are in serious need.

Fruit Cake (Uncooked).—Half a pound each of nuts, dates, figs, raisins and citron put thru food chopper. Grate in yellow rind of 1 lemon, add the juice of the lemon and blend with a wooden spoon. Chop nuts fine, cut citron into very fine strings, pack closely into an oiled tin, alternating layers of fruit with nuts and citron. Press down closely, weight and leave at least 24 hours. Keep in closed cake box and slice as needed. Serve in small slices with a simple gelatine dessert.

This can be varied in many ways. Candied orange peel or grated cocoanut may be used in place of citron. Orange juice or extract of cinnamon may be used instead of lemon. A drop of oil of cinnamon or ground cinnamon may be used. This fruit loaf may be cut in strips, rolled in powdered sugar, and used as candy.

Dried Fruit Cake

2 cups dried apples, peaches or any kind of dried fruit	1 teaspoon soda
2 cups Orleans molasses	1 cup seeded raisins
½ cup shortening	1 teaspoon nutmeg
2 eggs	1 teaspoon ground cinnamon
1 cup milk	½ teaspoon ground cloves
Flour for stiff batter	Juice of 1 lemon

Soak the fruit over night. Then chop very fine and simmer in the saucepan with the molasses for 2½ hours. Let it cool. Add beaten yolks of eggs to shortening and beat until light. Add the milk, then the fruit and molasses. Beat hard for five minutes. Now add enough flour for a stiff batter, and soda dissolved in 1 tablespoon of hot water. Mix well. Then add the floured raisins and spices and beat vigorously. Add the lemon juice and finally the egg whites beaten to a stiff froth. The batter must be stiff but elastic enough to drop from spoon. Bake in moderate oven two hours.

Liberty Fruit Cake

1 cup molasses	1 teaspoon nutmeg
1 cup water	1 teaspoon cinnamon
1 cup seeded raisins	1 cup corn flour
¼ cup citron cut fine	1 cup rye flour or white flour
½ cup shortening	5 teaspoons baking powder
½ teaspoon salt	

Boil the molasses, water, fruit, shortening, salt and spices together in saucepan three minutes. When cool, add flour and baking powder which have been sifted together. Mix well; bake in loaf pan in moderate oven about 45 minutes.

Apple Fruit Cake

2 cups apple sauce unsweetened
2 cups Orleans molasses
½ cup shortening
2 teaspoons soda
3 cups flour
1 cup chopped raisins and citron
1 teaspoon each of allspice, nutmeg and cinnamon

Simmer together the apple sauce and molasses until dark red or brown. Let cool and add shortening, soda, flour, floured fruit and spices. Bake in a slow oven 2 to 2½ hours.

VEGETABLE MARMALADE

Shortage of sugar has led to a rifling of the jam pots to furnish sweets for the family table, and housekeepers are wondering whether the stock of preserves will hold out until summer. Vegetable marmalade, the newest war-time product, offers one solution. A good marmalade can be made by using pumpkin, squash or carrots as the foundation.

Until the present shortage of sugar is over, it is not advisable to use any sugar in preserving. Housekeepers, however, might well can all the pumpkin, winter squash and carrots now available. These may be converted into marmalade after the first of the year when the new sugar crop comes on the market. Cook them until they will mash fine before putting into the cans, then pack in cans, put on rubbers, cover loosely, and cook in water-bath one hour, then lift out and tighten covers. In the spring take out of can as needed. Add 1 cup sugar per quart, cook slowly in a covered vessel until the sugar is dissolved, and the mixture is thick. Do not stir. Ginger root, spices or any desired seasoning may be added. For best results, tie the seasoning in a cheese-cloth bag and cook with the vegetable when cooking it down for canning.

Mock Orange Marmalade

Two cups ground carrot cooked until tender. Add the juice of 2 lemons, juice and grated rind of 1 orange, and 1 cup sugar. Cook slowly until thick. Do not stir. Pack in hot jars and sterilize 1 hour in water bath. Pumpkin, squash or apple may be used instead of carrot. Cook the apple to a thick sauce with the lemon and orange, then later, when sugar is more plentiful, add ¾ cup sugar per cup of fruit as needed.

DESTROYING BEAN WEEVILS

Injury to stored beans and peas thru the characteristic work of the bean weevil was reported from many parts of Pennsylvania last season.

The bean weevil beetle lays eggs the latter part of the summer on the bean pods. The young grubs eat their way into the beans. Later they emerge as fully-grown weevils, making characteristic round holes in the beans as they emerge. Breeding continues as long as there are beans left for the grub to eat.

Clean beans often are infested from weevils left in the receptacle in which last year's stock was stored. Beans already infested may be saved, or injury to clean beans prevented, by the use of carbon bisulfide, a clear colorless liquid which evaporates and gives off fumes poisonous to insect life.

To fumigate beans, directs C. H. Hadley, Jr., in charge of entomology extension at the Pennsylvania State College, place in tight receptacle such as a barrel, a box or a tight kettle, pour carbon bisulfide in small dish and place on top of the beans. Adjust the cover to the receptacle at once and allow to stand 24 to 36 hours. Use ½ oz. of the bisulfide to each bushel of beans. Fumigating does not injure beans or peas for use as seed or food.

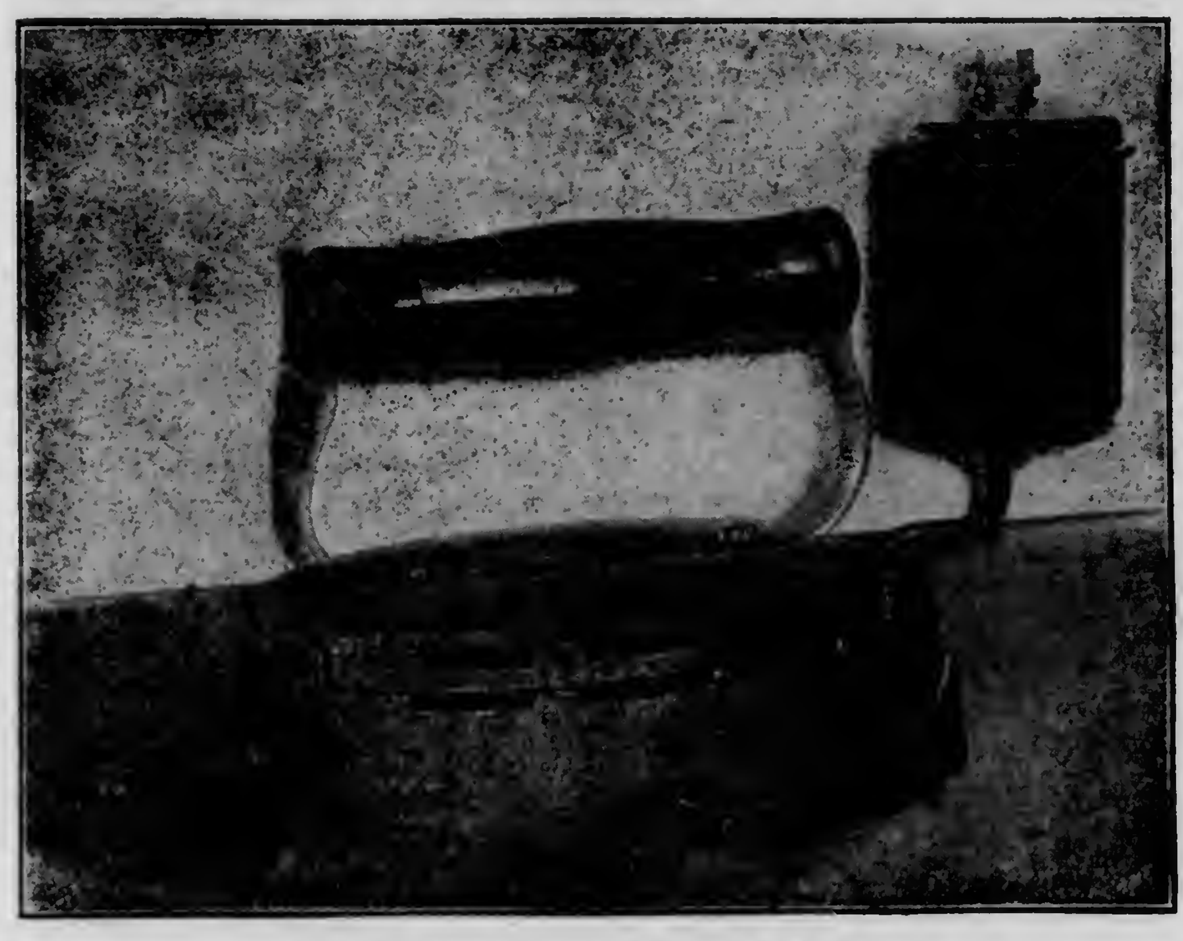
Where beans are used for food only, heating them in an oven of about 150 degrees F. for an hour will kill any insects present, but this heating will destroy the vitality of the seed so that it will not germinate.

Keep carbon bisulfie away from fire and do not breathe the fumes.

THE HUMBLE KALE

The various uses for kale are not generally appreciated or it would be found in every home garden. I know just one besides my own garden where it is grown at present. The trouble with many time-honored garnishing plants is that the dish must be freshly prepared or the green stuff will be wilted, and anything but ornamental. Kale, however, retains its crinkly, curly crispness for days. A leaf that happened to be thrown down in my back yard weeks ago is still fresh and pretty. Nothing that grows in the garden is prettier than a whole kale plant, while each individual leaf is prettier than parsley. The kale garnishes at an aristocratic dinner in our community recently received unstinted praise, and the kale was brought sixteen miles for the occasion. Nothing is more delicious or satisfactory for cooked "greens." We prefer kale greens to spinach, chard or any greens except beets with small bottoms.

I planted my kale the very last time I put seeds in the garden, when I wondered if it might not be too late to plant anything and it grows almost like a weed. The hard freezes this fall haven't yet affected it in the least, and I am beginning to wonder if it isn't an evergreen. By all means try it in some corner, if you haven't room for it otherwise, and you will be amply repaid for your trouble.—Mrs. E. M. Anderson, N. Y.



Th Oil Can in Front of Iron is a Bother

HOME-MADE SOAP

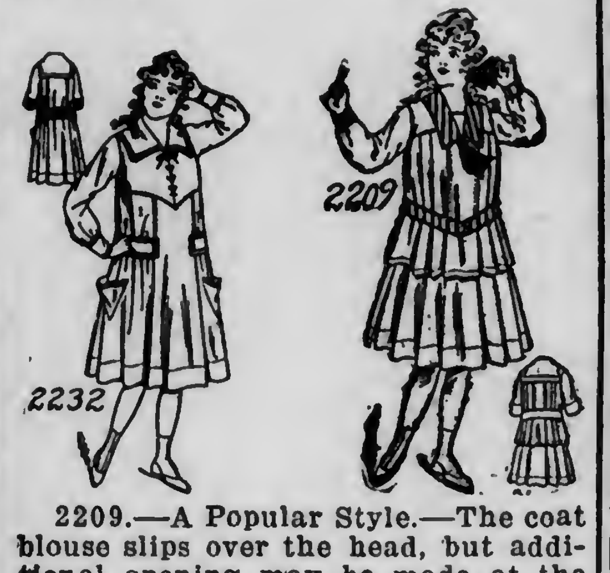
Put the waste bits of fat or fatty material into a kettle. To purify add a raw potato sliced thinly, boil very slowly until the potato slices are crisp and brown, then strain thru several thicknesses of cheese-cloth. Dissolve one pound of lye in 11 cups of water and pour it gradually into 7 pounds of the clarified and strained fat, stirring the mass until it is creamy and thoroly mixed. Pour into molds to harden. This will make a satisfactory soap for dishwashing, laundry and similar purposes.—N. D. Agri. College.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

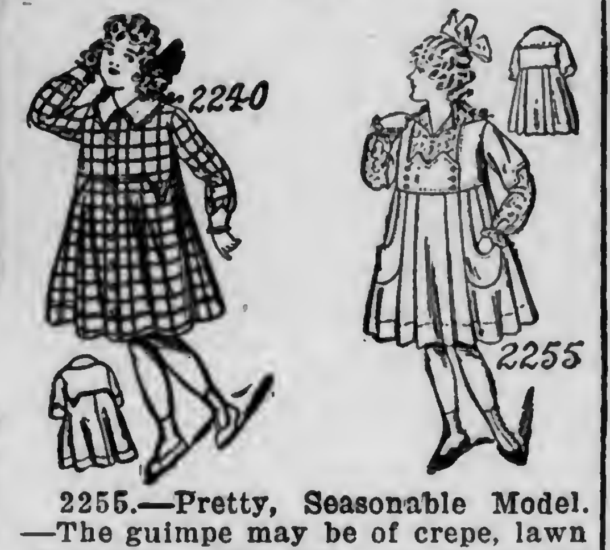
Some Dresses for Girls

2232.—Simple One-Piece Dress.—The front has a deep yoke, to which the skirt portions are joined. At the back the dress plaits extend to the shoulders. Pattern is in 4 sizes: 8, 10, 12 and 14 years. Size 12 requires 5 yards of 44-inch material. Price, 10 cents.



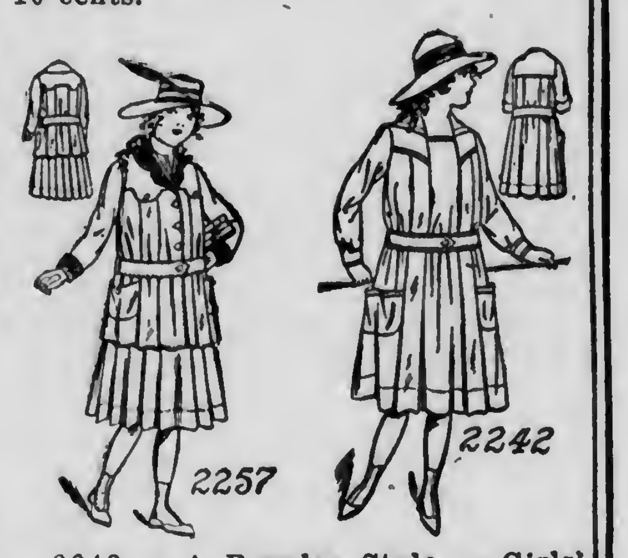
2209.—A Popular Style.—The coat blouse slips over the head, but additional opening may be made at the centre front. Pattern is in 5 sizes: 6, 8, 10, 12 and 14 years. Size 12 requires 4½ yards of 44-inch material. Price, 10 cents.

2240.—A Simple Dress For School or General Wear.—Pattern is cut in 4 sizes: 4, 6, 8 and 10 years. Size 6 requires 2⅜ yards of 44-inch material. Price, 10 cents.



2255.—Pretty, Seasonable Model. —The guimpe may be of crepe, lawn or batiste. The dress closes at the left side of the front, and is worn over the guimpe. Pattern is cut in 4 sizes: 4, 6, 8 and 10 years. Size 6 requires 1¼ yards for the guimpe, and 3¾ yards for the dress, of 27-inch material. Price, 10 cents.

2257.—A Seasonable Model.—This style is ideal for the growing girl. It will develop nicely for school or general wear. Serge, jersey cloth, plaid and check suiting are nice for it. Pattern is cut in 4 sizes: 8, 10, 12 and 14 years. Size 10 requires 5¼ yards of 44-inch material. Price, 10 cents.



2242. — A Popular Style. — Girls' one-piece, plaited dress, with sleeve in either of two lengths. Many girls are now wearing these box-plaited dresses. The one-piece style is so comfortable and becoming for growing girls. The sleeve in wrist length is finished with a shaped cuff. Pattern is cut in 4 sizes: 8, 10, 12 and 14 years. Size 12 requires 4⅜ yards of 44-inch material. Price, 10 cents.

Winter Eggs Sure

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker write E. J. Reefer, poultry expert, 1409 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1.00 (prepaid). So confident is Mr. Reefer of the results that a million dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his Free poultry book that tells the experience of a man who has made a fortune out of poultry.

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PENNSYLVANIA FARMER
261 S. 3rd St., Phila., Pa.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Dec. 3, 1917.

While the declining tendency which has been prevailing in the potato market for the past several weeks has not been continued this week, the market is very slow and dull, and the light volume of trading is giving very little definite basis for quotations. In some instances holders are not anxious to sell at the low prices, while buyers appear to be a little afraid of the market and are not ready to take the stock at prices at which it is offered. Supplies on hand are light for this season of the year, there being only a total of about 80 cars here in both delivery yards. There is some very poor frozen stock on the market and this, of course, has a demoralizing effect on the general situation. Best New York stock is being sold generally at $2.00@$2.20 per cwt., with some frozen stock as low as $1.75@$1.80. Pennsylvania stock brings from $2.20@$2.50 per cwt. Eastern shore barrel stock is still arriving at the rate of two or three cars daily and selling at $3.00@$3.50 per barrel for prime stock, with No. 2's at $1.50@$2.25. Nearby stock continues about steady with supplies normal for the season, and selling at 75 and 85c per ⅝ bushel basket.

Good fancy New Jersey house sweet potatoes are meeting a very active demand, with supplies rather light, and prices have advanced over last week, best stock now selling at $1.10@$1.25 per ⅝ bushel basket. Southern sweet potatoes continue to show the same poor quality of the past few weeks, and the market shows little change, most sales being made at $1.00@$2.00 per barrel, although strictly fancy stock would exceed these prices. Some Delaware sweets in hampers are also arriving and these show a wide range in quality and price ranging from $1.00@$1.75 per hamper.

Vegetables

The dried bean market is firm and higher, this year's crop on marrows selling at $15.75@$16.00 per cwt., and the same price is being obtained for Red Kidneys. String beans from southern points are in more liberal supply and prices are lower, ranging from $2.00@$3.50 per hamper. Winter beets from New Jersey and Pennsylvania points continue to meet a good steady market at $2.50@$3.00 per barrel. Bunch beets are also active at $2.50@$3.50 per 100. The cabbage market is again advancing. The old accumulations which were here during the recent embargo have been nearly all cleared up, and good fresh green stock that is now arriving is commanding from $35.00 to $38.00 per ton. Cauliflower has taken a sharp advance over last week's quotations and is now selling at $2.25@$2.50 per crate, this being from 75c @$1.00 above prices prevailing early last week. Celery continues in active demand and firm at 40@60c per bunch of about a dozen stalks, and an occasional sale of strictly fancy exceeds these quotations. Egg plants are a little more plentiful and prices are somewhat lower ranging from $3.00@$3.50 per crate on good stock, with some very poor selling as low as $1.50. Nearby horseradish is meeting a pretty good demand at $4.50@8.00 per barrel as to size and quality. Mushrooms continue firm and active; when showing quality selling up to 50c per lb. Some, however, are rather poor in quality and these sell as low as 30c. The onion market seems to be almost at a standstill. Supplies are not very heavy, but demand seems to be very limited, and best yellows are selling at $2.25@$2.50 per cwt., with some poor stock selling as low as $2.00 per cwt. Parsnips are more plentiful and prices are not as high as last week, but at the same time are moving freely at the lower prices, viz. 50@60c per basket. Pumpkins are showing practically no change from last week, selling at $3.00@$10.00 per hundred. Parsley is meeting a fair demand at $4.00@$5.00 per barrel. Quite a few hot house radishes are on the market and bringing good prices, best selling at 3½@4c per bunch. The cold weather has stopped the shipping of New Jersey spinach. A car of Norfolk spinach arrived here Monday and sold at $4.00@$4.50 per barrel. Shallots are coming all the way from New Orleans and sell at $4.50@5.00 per barrel. Squash are very scarce and fancy stock is bringing good prices, some sales being made this week at $4.00 per crate. Pennsylvania yellow turnips are in very light supply and continue to bring high prices ranging from 75@90c per basket. Yellow Aberdeens and white turnips, on the other hand, are very plentiful and selling low, white ranging from 25@35c per basket and the Aberdeens from 35@40c. Canadian Rutabagas are also plentiful and lower, ranging from 75@$1.15 per cwt. Watercress is in fair supply, and moving rather slowly at $1.00@$1.50 per hundred bunches.

Fruits

While the receipts of apples are quite liberal, demand has been active especially for strictly fancy fruit, and values as a whole are showing very little change from last week's quotations, ranging about as follows: Baldwins, $3.50@$5.00; Ben Davis, $3.00@$4.00; Black Bens, $3.00@$4.50; Black Twigs, $3.00@$5.00; Greenings, $3.50@6.00; Rubbardstons, $4.00@5.50; Starks, $3.00@$5.00; Spys, $3.50@$5.50; Kings, $3.50@$6.00; Twenty Ounce, $4.00@5.25; Stayman Winesaps, $4.00@$6.50; Snows, $3.50@5.50; Jonathans, $4.00@6.00; York Imperials, $3.00@$5.25; Winesaps, $3.00@$5.25. Western Box apples also continue active and sell about as follows: Rome Beauty, $1.50@$2.20; Jonathans, $1.50@$2.25; Pearmain, $1.75@$2.25; Winesaps, $2.00@$2.50; Winter Banana, $2.00@$2.75; Delicious, $2.00@$3.00. About the only pears that are now arriving in any quantity now are Keiffers, which have been showing a very wide range in quality, and ranging in price from $1.00 per barrel up to $3.50 for fancy stock. Some Seckels are still arriving, but mostly poor quality and moving hard at $4.00@$6.00 per barrel. There was a much better movement in cranberries for the Thanksgiving market than was anticipated, and supplies were well cleaned up, leaving but few remaining stocks in the hands of dealers. The market is consequently stronger and higher, barrels now selling at $10.00@$13.50, and crates at $3.00@$4.00. Chestnuts are very scarce and bringing good prices, ranging from $8.00@$9.00 per bushel. Black walnuts are in fair demand at $1.00@$1.50 per bushel. Hickory nuts are moving slowly at $1.50@$2.00 per bushel.

Poultry

This being the week immediately following Thanksgiving, of course the demand for dressed poultry is not quite so active. There is, however, a fair movement with prices being a shade easier, and fine desirable stock is bringing full revised quotations, which are about as follows: Turkeys fancy, 33@36c; good to common, 28@32c; fowls, 22@28c; chickens, 24@28c; broilers, 30@36c; ducks, 23@28c, and geese 22@25c. Rabbits have been arriving in quite free supply and meeting with active demand at 60@80c per pair for cottontails, while Jack rabbits have sold at $1.00@$1.25 per pair.

The market on live poultry is ruling firm at revised quotations. Supplies while not heavy are about ample for demands. Fowls are selling at 21@24c, chickens at 20@24c, old roosters, 18@19c. Ducks are showing a wide range, sales being made all the way from 20@26c as to variety, the outside prices being paid for white Pekin, while Indian Runner sell at the lower range. Geese are bringing 22@26c, and turkeys from 27@28c.

Eggs

Fancy fine new laid eggs are scarce and the market is firm and higher on this class of stock. Undergrade eggs are dull and hard to sell. Nearby firsts are now selling at 53@54c per dozen with current receipts at 52c. Seconds are selling all the way from 44@49c per dozen as to quality. Fancy carefully selected and candled eggs are jobbing out at 60@62c per dozen.

LANCASTER PRODUCE

Lancaster, Pa., Dec. 3, 1917.

After suffering from a scarcity of home-raised turkeys for Thanksgiving, local people were told by farmers this morning that many of the thin turkeys would be fat enough by Christmas. The country has a large supply of turkeys but they have failed to mature. Potatoes today declined slightly and sold for as little as $1.30. There was very little produce shown on the stalls, and trading was light.

Butter and Eggs.—Creamery butter, 52@55c per lb; country butter, 52@55c; fresh eggs, 55@58c per doz; storage eggs, 40@45c.

Poultry.—Dressed old chickens, $1.25@1.75; dressed young chickens, 90c@$2.00; live chickens, $1.50@2.00 per pair; old live chickens, 18c per lb.

Vegetables and Fruits.—Lima beans, 18c pt; celery 5@10c bunch; lettuce, 5@12c hd; dry onions, 10c bx; cauliflower, 15@20c hd; eggplant, 5@10c each; sweet potatoes, 30c ½ pk; white potatoes, $1.15@1.35 per bushel; do, 12@20c ½ pk; spinach, 5c ½ pk; grapes, 20@25c basket; apples, 20@30c ½ pk; pears, 20@25c ½ pk.

Grain Market—Wheat, $2 bu; chicken wheat, $1.95 bu: new ear corn, $1.25; old corn, $2.23; rye, $1.75. Timothy hay, $25@26 ton; mixed hay, $24@25; wheat straw, $12@13.—R.

YORK PRODUCE MARKET

Market conditions were unchanged for the past week. The Thanksgiving markets were without special features except the large amount of poultry displayed; the supply being much larger than the demand. Geese and ducks were plentiful at advanced prices over last year. Turkeys were almost out of sight, both in price and quantity. Fruit is unchanged in quotations while the demand is light. Potatoes were sold as low as 75c per bushel at the railroad loading points. Just why this big drop, no one seems to know. There is considerable demand for the tubers but the farmers all declare they are too busy to haul, which actually means that they will not sell before spring if they do not advance. One thing is certain; either $1.50 will be realized, or much of the potato land will be planted in corn next year. Potatoes at 75c to $1.00 and corn at $2.00 to $2.75 will not pay, relatively.

Eggs.—53@56c per doz.

Butter.—Country, 48@50c lb; separator, 50@55c. Milk 10c qt.

Poultry—Hens, 18c lb; dressed, 65c@$1.25 each; ducks, $1.25@1.50 each; geese, $2.00@2.75 each; turkeys, 36@38c lb.

Vegetables.—12@29c ½ pk; 75@$1 bu; cabbage, 2@10c hd; lettuce, 5@10c hd; beets, 5c bch; radishes, 6c bch; onions, 10@12c bx; 25c ½ pk; lima beans, 36c qt; soup beans, 38@40c qt; celery, 5@10c stalk; turnips, 25@30c ½ pk; egg plants, 8@8c each; corn meal, 10c qt.

Fruit—Apples, 12@35c ½ pk; pears, 5@10c bx; 8@15c ½ pk; chestnuts, 25c qt; hickory nuts, 30c qt.

Retail Grain Market.—Wheat, $2.25; corn, $2.25; oats, 90c; rye, $1.60; bran, $2.20 cwt; middlings, $3.00 cwt.

Wholesale Grain Market.—Wheat, $2.07; corn, $1.60; oats, 70c; rye, $1.40; bran, $34.50@41 ton; middlings, $52@58 ton.—W.

NEW YORK PRODUCE

New York City, Dec. 3, 1917.

Fine butter is a little higher than last week. Cheese irregular. Egg market steady. Dressed poultry quiet and prices lower. Apples firm. Potatoes in better demand.

Butter.—Creamery, extras (92 score), per pound 49c; higher score, 49@50c; thirds to firsts, 38@48c; state dairy, 36@47c; ladles, 31@34c.

Cheese.—Flats, specials, 24½c; do., colored, 23½c; prime, 22½@23c.

Eggs. — Fresh gathered extras, 59@60c; extra firsts, 57@58c; nearby white, fine to fancy, 72@76c; ordinary to good, 70@72c; browns, 60@63c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 38@40c; old roosters, 20c; squabs, $2.75@6.50 per dozen. Spring ducks, per lb., 21@22c; turkeys, fresh killed, 34c.

Vegetables and Greens.—Beets, bbl., $2.50@3. Onions, per 100-lb. bag, $2.25@3. Potatoes, Jersey, $2.75@3.25 bbl; state and western, $2.50@4.25 per bbl. Carrots, $2.25@$3 bbl.

Apples.—Wealthy, $3.50@5 bbl; McIntosh, $4@7; Jonathan, $4@6.50; York Imperial, $4@5; Twenty Ounce, $3.50@5.50; King, $4@5.25; Baldwin, $3.50@4.75.

LANCASTER LIVE STOCK

(Reported by McClain Commission Co.)

Lancaster, Pa., December 3, 1917.

The receipts of cattle for today's market were 160 cars, as compared with 102 cars last Monday, and 93 cars the corresponding Monday a year ago. Today's supply came from Virginia, 41 cars; Chicago, 63; Buffalo, 19; Indianapolis, 7; Pennsylvania, 15; Maryland, 3; Pittsburgh, 6; St. Paul, 2.

The active trade here last week prompted shippers to be a little too enthusiastic, and the result was that they got more cattle here today than the demand could promptly absorb. This condition resulted in a weakening of prices which would not have occured had shippers used common sense and made the supply a normal one. There was nothing particularly good on sale in the beef cattle line. One car of coarse, fat Virginia steers weighed 1,880 lbs. and sold at $12.75. Another of the same kind came from Chicago, weighed 1,271 lbs. and sold at $12.25. A load of Virginia's that were a little better quality, but did not have an abundance of grease, weighed 1,200 lbs. and sold at $12.55. Another car of the same kind weighed 1,130 lbs. and sold at 10.50. A fair grade of 1,100 lbs. and sold at $12.25.

A good many bunches of a plain kind of steers weighing 900 to 1,050 lbs., that looked as if they would make pretty tough beef, sold at $10.75 to $11. One car of Virginia heifers that were pretty good, weighed 855 lbs. and sold at $10.50. A fair grade of heifers weighing 800 to 900 lbs. sold at $9.50 to $10, and the common weighing 700 to 800 lbs. at $8.50 to $9.25. A few small bunches of good fat cows weighing 1,100 lbs. sold at $9.50 to $10. A pretty good kind of cows, weighing 900 to 1,050 sold at $8.50 to $9.25.

There was a generous supply of feeders on sale, weighing 800 to 1,100 lbs., but light weight stockers, 500 to 700 lbs. of either common to good quality were very scarce. The attendance of buyers for stockers and feeders was not as large as a week ago, because this section of Pennsylvania has had its needs pretty well supplied for winter feeding. Under the circumstances, sellers were not able to maintain the prices at which these grades sold last Wednesday. Some sales were 25 cents lower; other sales 10 to 15 cents lower, the average decline being about 15 cents per cwt.

The feeder crop was made up mainly of shipments from Western markets; the Canadian not being so much in evidence as they have been every Monday for the past two months. Some of the representative sales of Canadians were 20 head weighing 1,140 lbs. at $12. Another weighing 1,100 lbs. at $12. One small bunch weighing 1,180 lbs. at $12.50. Another of 15 head that weren't what could be called good weighed 1,010 lbs. and sold at $10.75. Another of a rather plain kind of Canadian horned cattle, weighed 800 lbs. and sold at $10.50. Another of 20 head of about the same grade, weighed 800 lbs. and sold at $10.25. A few of the sales of feeders that came from Chicago ranged from $10.50 to $12.25. A fair grade of feeders weighing 800 to 900 lbs. went at $10 to $10.50. A plain kind weighing 800 to 900 lbs. sold at $9.25 to $9.75.

At the close of business quite a number of cars that were delayed in transit and only arrived about noon, were unsold because their owners had no chance to get a fill on them to offer for sale. Western markets are all quoted today at 25 to 50 cents higher on stockers and feeders, and if these prices are maintained there until the middle of the week, the feeder price will have a different "tune" here next Monday. The feeder market all this fall has had alternate "soft spots" and "hard spots", but every time the "hard spots" presented themselves, the lift in price was just a little more than before the previous recession and the result is that feeders are now considerably higher than they were four weeks ago.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., Dec. 3, 1917.

Beef Cattle.—There was a better feeling in the market and prices were firmly maintained, with demand sufficient to keep the offerings of desirable stock pretty well cleaned up.

Steers, best, $12.50@14; fair to good, $11 $12.50; common, $9.50@11; bulls, 6.25@8.50; extra choice higher; cows, fat, per lb., 7½@8½c; extra choice higher; medium per lb., 6½@7½c; ordinary, per lb., 4½@5½c; calves, exceptional lots, $15.50; a few as high as $16; good to choice, $15@14.50; medium, $10@11.5⅛; common, $7.50@8.50; Tennessee and southern, $7.50@18.

Hogs.—Theer was a fairly active demand and the market ruled firm, with offerings only moderate. Quitations for best western, $19@19.50.

City Dresesd Stock.—The general market ruled steady, with demand active.

Steers, 15@20c; heifers, 14@18c; cows, 10@17c; calves, 21@22c; southern and barnyards, 16@18c; country dressed, 19c; do., extras, 20c; sheep, 21c; do extras, 22c; lambs, 27c; do., extras, 28c; hogs, 25c.

PITTSBURGH LIVE STOCK

Pittsburgh, Pa., Dec. 3, 1917.

Cattle.—The supply on sale Monday was 105 loads compared with 100 loads the week before. The market ruled active and generally 15 to 25 cents per cwt. higher on all grades; very few good to choice cattle were on sale, bulk being fair to medium grades. Heifers were in fair supply, and sold steady to strong with choice weighty heifers in very good demand. Cows were in fair supply; bolognas and choice sold stronger, while medium grades were steady. Bulls were in light supply and sold stronger on all grades. Best fresh cows sold higher, springers slow. Today's cattle receipts were 130 carloads; demand only moderate. Market opened slow with prices somewhat lower than last week.

Good to choice	$13.00@13.50
Medium to good, 1200-1300 lb.	11.00@12.00
Fair to medium, 1000-1100 lb.	9.50@10.25
Common, 700-900 lb.	6.00@ 7.00
Common to good fat oxen	6.00@ 8.50
Heifers, 700-1100 lb.	6.00@11.00
Bologna cows	4.75@ 5.75
Fresh cows and springers	$25@110

Calves.—Receipts of calves were light and market steady. Today's receipts 600 head. Market higher.

Veal calves	$11.00@15.25
Heavy and thin calves	5.00@10.50

Hogs.—The supply during the week has been liberal, but with a good demand the market has ruled active with prices about steady with Monday's closing values. Today's receipts were 70 double-deck loads. Market lower.

Prime heavies	$17.85@
Heavy mixed	17.30@
Prime medium weights	17.30@
Best heavy Yorkers	17.25@
Light Yorkers	16.25@
Good pigs	15.75@16.00
Common to good roughs	14.00@14.50

Sheep and Lambs.—The supply of sheep and lambs has been only fair, and with a fairly good demand the market ruled active at steady prices on all grades. Today's receipts were 20 double-deck loads. Market strong on sheep. Few choice lambs higher; other prices steady.

Prime wethers (95 to 100 lb.)	$11.25@11.75
Good mixed	10.25@11.00
Fair mixed ewes and wethers	9.00@10.00
Culls and common	4.00@ 7.00
Culls to choice yearlings	10.00@14.00
Spring lambs	12.00@17.50

CHICAGO HORSE MARKET

Chicago, Ill., Dec. 3, 1917.

Horses were in restricted demand last week at generally unchanged prices; quotations running from $60@100 for the commoner grades to $200@265 for the better kinds. Army horses were principally wanted. During the International Live Stock Exposition there is no regular horse market, but army inspectors buy as usual.

PHILADELPHIA HAY AND GRAIN

Philadelphia, December 3, 1917.

Baled Hay and Straw.—Receipts, 240 tons of hay, 2 cars of straw. Desirable grades of both hay and straw were pretty well cleaned up at firm prices.

Timothy hay, according to location: No. 1 large bales, $27.50@28; No. 1 small bales, $27.50@28; No. 2, $26@26.50; No. 3, $23@24.50. Clover mixed hay: Light mixed, $26@26.50; No. 1, do., $25@25.50; No. 2, do., $22@23.

Straw.—No. 1, straight rye, $17.50; No. 2 do., $16.50@17; No. 1 tangled rye, $16@16.50; No. 2 do., $15@$15.50; No. 1 wheat straw, $14@14.50; No. 2 do., $13@13.50; No. 1 oat straw, $13.50@14; No. 2 do., $12.50@13.

Note.—It is hard to determine the exact total of hay for the local trade coming to this market, as a considerable quantity of the arrival is probably for export.

Bran.—The market was quiet but firm under light offerings. Quotations: Car lots, including sacks:

Soft winter bran, in 100-lb. sacks, per ton, $43@43.50; spring bran, in 100-lb. sacks, per ton, $42.50@43.

Wheat.—No. 2, red, $2.25.

Corn.—Normal.

Oats.—No. 2, 80½@81c; standard white, 79½@80c.

Rye.—Nearby, as to quality, $1.75@1.80.

PHILADELPHIA DAIRY MARKET

Philadelphia, December 3, 1917.

Butter.—Wholesale trade as usual on the last day of the week was quiet, but prices of fine solid-packed creamery were fairly maintained under scarcity. The under grades were quiet at inside figures. Fancy prints were scarce and firm, with demand fairly active, but unattractive qualities were little wanted and irregular in value.

Western, fresh solid-packed creamery, extra, 48c; higher-scoring goods, 49@50c; extra firsts, 47c; firsts, 44@46c; seconds, 41@43c; sweet creamery, extra, 49c; undergrades, 46@48c; held creamery, good to choice, 43@45c; nearby prints, fancy, 52c; average extra, 49@51c; firsts, 45@48c; seconds, 43c; special brands jobbing at 35@55c.

Cheese.—The market was quiet and without important change.

New York, full cream, fancy, June, 25½c; specials higher; do., fresh made, best, 28¼@23½c; do., fair to good, 22½@23c.

NEW YORK MARKET

New York City, Dec. 3, 1917.

The market is closely balanced. It is expected that the supply will begin to increase within the course of a week or two. No report is expected immediately from the Federal Milk Commission which has been appointed by Herbert C. Hoover, Food Administrator, to fix prices. Its task is a complicated one. It will do well if it makes a satisfactory report before January 1, by which time it must fix upon rates. Dairymen in the Watertown, N. Y., district are objecting to the reduced December League rate. League rates to the producers of Grade B (barn score 55) in the first district are $3.10 a hundred for 3 percent milk; $3.34, or approximately 7.1 cents a quart, for 3.6 percent; and $3.50 for 4 percent.

Receipts of milk and cream in 40 qt. cans for the week ending December 1, were as follows:

Railroad	Milk	Cream
Erie	38,926	1,321
Susquehanna	5,090	40
West Shore	9,390	845
Lackawanna	53,762	1,390
N. Y. Central (long haul) including Rutland	102,207	1,789
Ontario	34,183	1,446
Lehigh Valley	40,011	347
New Haven	3,798	4
Pennsylvania	7,920	60
Other sources	5,575	150
Totals	300,862	7,392
Same week last year	317,056	8,254

TOBACCO MARKET

It is estimated that 75 to 85 percent of the Pennsylvania crop has been sold, and, of course, at prices higher than ever known. Prices ranged all the way up to $31 per cwt. and there are those who would not accept that unprecedented figure. It is now predicted that $35 per cwt. will be paid for choice offerings if persistently held. At present, however, there is a lull, and buyers are free in predicting that those who hold will find a lower market and nil results, the same indicating an attempt to create an unfavorable impression upon growers with reference to future values. As heretofore no attention should be paid to the never-ending attempt to delude and all should remember that under existing conditions there can be no serious or permanent break in tobacco prices. Despite repeated warning to not sell hurriedly there are those who did not heed and are now regretting when it is too late. There is a temptation to escape such contracts but the same is usually impossible, and for this and other reasons should not be attempted. Better take one's medicine, no matter how bitter, and thus learn to be more careful next time. Buyers here sought to conceal the high prices which they have been paying by requiring sellers to keep the same "under their hat," but surely those hats leak for hardly a seller can be found who is not free to disclose his transactions and, with the exception of those who sold too early, to comment upon his satisfaction. The locality now has favorable casing weather and stripping is progressing rapidly.—H. E. Tweed, Dec. 3.

NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

SYNOPSIS OF PREVIOUS CHAPTERS

Henry de Spain is the new General Manager of the stage line running between the rich mines of the Spanish Sinks and the town of Sleepy Cat. He immediately gets in trouble with members of what is known as Morgan's gang whose headquarters are at Morgan's Gap. One of the Morgan followers, Sassoon, assaults one of the stage drivers, and is arrested by de Spain. The Morgans take this as an affront on their power, and set out to "get" de Spain. In the meantime, de Spain falls in love with Nan Morgan, niece of the "gang" leader. While the Morgans are trying to find ways of putting him out of the country, de Spain is trying to find ways of currying favor with Nan. Going to the Calabasas Inn to have a lunch prepared for Nan when she comes on the stage, de Spain is trapped by the leaders of the Morgan gang. Pitted against four men he succeeds in disabling three and gets out thru a window and onto a horse. Wounded and exhausted, he lets the horse go as he will. The railroad men search the country for him but at the end of a week he is not found.

The horse takes him to Music Mountain, close to the Morgan stronghold. Weakened and overcome by loss of blood, de Spain gets off the horse and crawls into a small crevice in the mountain side. After a day in this retreat he is surprised by Nan Morgan herself. She regards him as a murderer, and refuses to give him assistance. He offers slight explanation.

CHAPTER XIII (Continued)

De Spain looked at Nan in honest indignation.

"You know I tried to kill your cousin! You know nothing of the kind. Your cousin tried to kill me. He's a bully and a coward, a man that doesn't know what fair fighting means. Tell him that for me."

"You are safe in abusing him when he's not here."

"Send him to me! This is no place for a woman that calls me what you call me—send your cousin and all his friends!" His voice shook with anger. "Tell him I'm wounded; tell him I've had nothing to eat since I fought him before. And if he's still afraid"—de Spain drew and broke his revolver almost like a flash. In that incredibly quick instant she realized he might have threatened her life before she could move a muscle—"tell your fine cousin I've got one cartridge left—just one!" So saying, he held in one hand the loaded cartridge and in the other the empty revolver.

"You think little of bloodshed, I know," she returned unpleasantly.

"I think a whole lot," he drawled in painful retort, "of fair fighting."

"And I am a woman—you do well to taunt me with that."

"I did not taunt you with it. You are hatefully unjust," he protested sullenly.

"You've asked me to go—I'm going. How much of what you tell me is true, I don't know. But I can believe my own eyes, and I believe you are not in condition to do much injury, even if you came here with that intention. You will certainly lose your life if you move from your hiding-place."

She started away. He leaned toward her. "Stop," he said peremptorily, raising himself with a wrenching effort. Something in the stern eye held her. His extended hand pointed toward her as arbitrarily as if, instead of lying helpless at her feet, he could command her to his bidding. "I want to ask you a question. I've told you the truth. I have just one cartridge. If you are going to send your cousin and his men here, its only fair I should know it now—isn't it?"

Her face was hard in spite of the weakness he struggled to conceal. It annoyed her to think he had surmised she was revolving in her mind what to do. He was demanding an answer she had not yet given to herself.

"My cousin is wounded," she said, pausing. And then with indecision: "If you stay here quietly you are not likely to be molested."

She stepped down from the ledge as noiselessly as she had come. Shaken by the discovery she had so unexpectedly made, Nan retreated almost precipitately from the spot. And the question of what to do worried her as much as it worried de Spain. The whole range had been shaken by the Calabasas fight. Even in a country where appeal to arms was common, where men were ready to snuff out a life for a word, or kill for a mess of pottage—to settle for the least grave offense a dispute with a shot—the story of the surprising, unequal, and fatal encounter of the Calabasas men with de Spain, and his complete disappearance after withstanding almost unheard-of odds, was more than a three days' wonder; nothing else was talked of for weeks. Even the men in Morgan's Gap, supposed to be past masters of the game played in the closed room at Calabasas, had been stunned by the issue of the few minutes with Jeffries' new man.

Nan, who had heard but one side of the story, pictured the aggressor from the tale of the two who lived to tell of the horribly sharp action with him. Morning, noon, and night she had heard nothing but the fight at Calabasas discussed by the men that rode in and out of the Gap—and in connection with it, de Spain's unexplained flight and disappearance. Those that knew the real story of the conspiracy to kill him did not talk much, after the disastrous outcome, of that part of the affair. But Nan's common sense whispered to her, whatever might be said about de Spain's starting the fight, that one man locked in a room with four enemies, all dangerous in an affray, was not likely to begin a fight unless forced to—none, at least, but a madman would do so. She had heard stories, too, of de Spain's drinking and quarrelling, but none that told them had ever seen him under the influence of drink or had had a quarrell with him except Gale and Sassoon—and these two were extremely quarrelsome.

Unhappy and irresolute, Nan, when she got home, was glad of an excuse to ride to Calabasas for a packet of dressings coming by stage from Sleepy Cat for Gale, who lay wounded at Satt Morgan's; and, eating a hasty luncheon, she ordered her horse and set out.

Should she tell her Uncle Duke of finding de Spain? Whenever she decided that she must, something in the recollection of de Spain's condition unsettled her resolution. Tales enough of his bloodthirstiness, his merciless efficiency, his every-ready craft and consummate duplicity were familiar to her—most of them made so within the last three days—for no one in her circle any longer professed to underrate the demonstrated resourcefulness of the man.

Yet only a few of the stories appealed to Nan's innate convictions of truth and justice. She lived among men who were, for the most part, not truthful or dependable even in small things—how could they be relied on to tell the truth about de Spain's motives and conduct? As to his deadly skill with arms, no stories were needed to confirm this, even tho she herself had once overcome him in a contest. The evidence of this mastery had now a fatal preeminence among the tragedies of the Spanish Sinks. Where he lay he could if he meditated revenge on her people, murder any of them, almost at will. To spare his life imperilled to this extent theirs—but surely he lay not far from death by exhaustion. Weighed against all she had ever listened to concerning his deceit was the evidence of her own sight. She had seen men desperately ill, and men desperately stricken. This man was either both or she could never again believe her senses. And if he was not helped soon he would die.

But who was to help him? Certainly none of his friends could know where he was hidden or of his plight—no help could come from them unless she told them. If she told them they would try to reach him. That would mean an appalling—an unthinkable—fight. If she told her uncle, could she keep him from killing de Spain? She believed not. He might promise to let him go. But she knew her uncle's ferocious resentment, and how easy it would be for him to give her fine words, and, in spite of them, for de Spain to be found dead some morning where he lay—there were plenty of men available for jobs such as that.

The long ride to Calabasas went fast as the debate swept on, and the vivid shock of her strange experience recurred to her imagination.

She drew up before the big barn. Jim McAlpin was coming out to go to supper. Nan asked for her package and wanted to start directly back again. McAlpin refused absolutely to hear of it. He looked at her horse and professed to be shocked. He told her she had ridden hard, urged her to dismount, and sent her pony in to be rubbed, assuring Nan heartily there was not a man, outside the hostlers, within ten miles. While her horse was cared for, McAlpin asked, in his harmless Scotch way, about Gale.

Concerning Gale, Nan was noncommittal. But she listened with interest, more or less veiled, to whatever running comment McAlpin had to offer concerning the Calabasas fight. "And I was sorry to see Gale mixed up in it," he concluded, in his effort to draw Nan out, "sorry. And sorrier to think of Henry de Spain getting killed that way. Why, I knowed Henry de Spain when he was a baby in arms." He put out his hand cannily. "I worked for his father before he was born." His listener remained obdurate. There was nothing for it except further probing, to which, however, Jim felt abundantly equal. "Some say," he suggested, looking significantly away again, "that Henry went down there to pick a fight with the boys. But," he asserted cryptically, "I happen to know that wasn't so."

"Then what did he go down there for?" demanded Nan indignantly, but not warily.

McAlpin, the situation now in hand, took his time to it. He leaned forward in a manner calculated to invite confidence without giving offense. "Miss Nan," said he simply, "I worked for your Uncle Duke for five years—you know that." Nan had, at least, heard it fifty times. "I think a good deal of him—I think a good deal of you, so does the missus, so does little Loretta—she's always asking about you, the child is—and I heard and see a good deal here that other people don't get next to—they can't. Now Henry de Spain was here, with me, sitting right there where you are sitting, Miss Nan, in that chair," declared McAlpin with an unanswerable finger. "Not fifteen minutes before that fight began, he was there. I told you he never went down there to fight. Do you want the proof? I'll tell you—I wouldn't want anybody else to know—will you keep it?"

Nan seemed indifferent. "Girls are not supposed to keep secrets," she said obstinately.

Her narrator was not to be balked. He pointed to the coat-rack on the wall in front of them both. "There is Henry de Spain's coat. He hung it there just before he went down to the inn. Under it, if you look, you'll find his belt of cartridges. Don't take my word—look for yourself."

Giving this information time to sink in, McAlpin continued. Nan's eyes had turned, despite her indifference, to the coat; but she was thinking more intently about the belt which McAlpin asserted hung under it. "You want to know what he did go down to the hotel for that afternoon? I happen to know that, too," averred McAlpin, sitting down but respectfully, on the edge of the chair. "First I want to say this: I worked for your Uncle Duke five years."

He paused to give Nan a chance to dispute the statement if she so desired. Then taking her despairing silence as an indorsement of his position in giving her a confidence, he went on: "Henry de Spain is dead," he said quietly. She eyed him without so much as winking. "I wouldn't tell it if he wasn't. Some of the boys don't believe he is. I'm not a pessimist—not a bit—but I'm telling you its a physical impossibility for a man to take the fire of four revolvers in the hands of four men like those four men, at arm's length, and live. Henry de Spain is the cleverest man with a gun that ever rode the Spanish Sinks, but limits is limits; the boy's dead. And he was always talking about you. Its God's truth, and since he's dead it harms no one to tell it to you, tho I'd never breathe it to another. He was fairly gone on you. Now that's the fair truth; the man was gone on you. I knowed it, where others didn't know it. I was the only one he could always ask about whether you'd been here, and when; and when you might be expected coming again—and all such things like that.

"You don't have to knock me down, Miss Nan, to put me wise about a man's being keen on a girl. I'm a married man," declared McAlp'n with modest pride. "He thought all the time he was fooling me, and keeping covered. Why, I laughed to myself at his tricks to get information without letting on! Now, that afternoon he came in here kind of moody. It was an anniversary for him, and a hard one—the day his father was shot from ambush—a good many years ago, but nary one of us had forgot it. Then he happened to see your pony—this same pony you're riding today—a-standing back there in the box-stall. He asked me whose it was; and he asked me about you, and, by jinx! the way he perked up when I told him you were coming in on the stage that afternoon! When he heard you'd been sick, he was for going down to the hotel to get a cup of coffee—for you!" McAlpin, like any good story-teller, was already on his feet again. "He did it," he exclaimed, "and you know what he got when he stepped into the barroom." He took hold of de Spain's coat and held it aside to enter his exhibit. "There," he concluded, "is his cartridge-belt, hanging there yet. The boy is dead—why shouldn't I tell you?"

Nan rode home much more excited, more bewildered than when she had ridden over. What should she do? It was already pretty clear to her that de Spain had not ridden unarmed to where she found him to ambush any of the Morgans. He was not dead; but he was not far from it if McAlpin was right and if she could credit her own senses in looking at him. What ought she to do?

Other things McAlpin had said crowded her thoughts. Strangest shock of all that this man of all other men should profess to care for her. She had shown anger when McAlpin dared speak of it; at least, she thought she had. And she still did not know how, sufficiently, to resent the thought of such audacity on de Spain's part; but recalling all she could of his words and actions, she was forced to confess to herself that McAlpin's assertions were confirmed in them—and that what McAlpin had said interpreted de Spain's unvarying attitude toward her. This was, to say the least, a further awkward complication for her feelings. She already had enough to confuse them.

CHAPTER XIV

Nan Drifts

Without going in to speak to Gale, whom Bull Page, his nurse, reported very cross but not hurt much, Nan left her packet for him and rode home. Her uncle Duke was in town. She had the house to herself, with only Bonita, the old Mexican serving-woman, and Nan ate her late supper alone.

The longer she pondered on de Spain and his dilemma—and her own—the more she worried. When she went to bed, up-stairs in her little gable room, she thought sleep—never hard for her to woo—would relieve her of her anxiety for at least the night. But she waited in vain for sleep. She was continually asking herself whether de Spain was really very badly hurt; or whether he might be only tricking her into thinking he was. Assailed by conflicting doubts, she tossed on her pillow until a resolve seized her to go up again to his hiding-place and see what she could see or hear—possibly, if one were on foot, she could uncover a plot.

She dressed resolutely, buckled a holster to her side, and slipping a revolver—a new one that Gale had given her—into it for protection, she walked softly down-stairs and out of doors.

The night air was clear with a three-quarter moon well up in the sky She took her way rapidly along the trail to the mountain, keeping as much as possible within the great shadows cast by the towering peaks.

Not a sound met her acute listening as she pressed on—not a living thing seemed to move anywhere in the whole great Gap, except this slender-footed, keen-eyed girl, whose heart beat with apprehension of wiles, stratagems, and ambush concerning the venture she was making.

Breathing stealthily and keyed to a tense feeling of uncertainty and suspicion, Nan at length found herself below the ledge where de Spain was in hiding. She stopped and, with the craft of an Indian, stood perfectly still for a very long time before she began to climb up to where the enemy lay. Hearing no sound, she took courage and made the ascent. She reached without adventure the corner of the ledge where she had first seen him, and there, lying flat, listened again.

Hearing only the music of the little cascade, she swept the ledge as well as she could with her eyes, but it was now so far in shadow as to lie in impenetrable darkness. Hardly daring to breathe, she crept and felt her way over it with her hands, discovering nothing until she had almost reached de Spain's retreat at the farther side. Then her heart stopped in an agony of fear—underneath the overhanging wall she heard voices.

To attempt to escape was as dangerous as to lie still. Had she dared, she would have retreated at once the way she came. Since she dared not, she was compelled to hear what was said, and, indeed, was eager to hear. De Spain had confederates, then, and had tricked her, after all. Whatever his plot, she was resolved to know it, and instead of retreating she took her revolver in hand and drew herself nearer. When she had gained her new position the mutterings, which had been indistinct, became audible. It was not two voices she had heard, but one—de Spain, she judged, was talking in his sleep.

But a moment later this explanation failed to satisfy her. The mutterings were too constant and too disconcerted to be mistaken for sleep-talking—it dawned on Nan that this must be delirium. She could hear de Spain throwing himself from side to side, and the near and far sounds, as if of two voices, were explained. It was possible now for her to tell herself she was mistress of the situation. She crept nearer.

He was babbling in the chill darkness about ammunition, urging men to make haste, warning them of some one coming. He turned on the rock floor ceaselessly, sometimes toward her, sometimes from her, muttering of horses, water, passengers, wheels, wrecks. He made broken appeals to he chopped out, directed men where to use their axes. Nan listened to his ravings, overcome by the revelation of his condition. Once her uncle had lain sick of a fever and had been delirious; but that, her sole experience, was nothing to this. Once de Spain threw out a groping hand and, before she could escape, caught her skirt. Nan tried to pull away. His grip did not loosen. She took his hand in hers and, while he his fingers open and drew away. His muttered meaningless words, forced hand was dry and burning hot.

She told herself he must die if he remained longer unaided, and there were unpleasant possibilities, if he died where he lay. Such a death, so close to her own home might, if it were ever known, throw suspicion on her uncle and arouse the deeper resentment of the wounded man's friends. If the least of pity played a part in suggesting that her safest course was to help de Spain, Nan kept its promptings as much as she could in the penumbra of her thoughts. She did not want to pity or to help him, she convinced herself; but she did not want his death laid to a Morgan plot—for none of his friends would ever believe de Spain had found his way alive and alone to where he lay.

All of this Nan was casting up in her mind as she walked home. She had already decided, but without realizing it, what to do, and was willing to assume that her mind was still open.

Toward daylight of the morning, de Spain dreamed he was not alone—that a figure moved silently in the faintness of the dawn—a figure he struggled to believe a reality, but one that tricked his wandering senses and left him, at the coming of another day, weaker, with failing courage, and alone.

But when he opened his eyes later, and with a clearer head, he found food and drink near. Unable to believe his sight, he fancied his wavering senses deceived him, until he put out his hand and felt actually the substance of what he saw. He took up a bottle of milk incredulously, and sipped at it with the caution of a man not unused to periods of starvation. He broke eggs and swallowed them, at intervals, hungrily from the shell; and meat he cached, animal-like, in near-by crannies and, manlike, in his pockets.

He was determined, if she should come again, to intercept his visitor. For forty-eight hours he tried catnaps with an occasional sandwich to keep up his strength. Nan returned unseen, and disappeared despite his watchfulness. A new supply of food proved she had been near, but that it would be hard to time her coming.

When she did come, the third time, an innocent snare discovered her presence. It was just before day, and de Spain had so scattered small obstacles—handsful of gravel and little chips of rock—that should she cross the ledge in the dark she could hardly escape rousing him.

The device betrayed her. "I'm awake," announced de Spain at once from his retreat. When she stopped at the words he could not see her; she had flattened herself, standing, against a wall of the ledge. He waited patiently. "You give me no chance to thank you," he went on after a pause. Nan, drawing nearer, put down a small parcel. "I don't need any thanks," she replied with calculated coolness. "I am hoping when you are well enough you will go away, quietly, in the night. That will be the only way you can thank me"

"I shall be as glad to go as you can be to have me," rejoined de Spain. "But that won't be thanking you as I am going to. If you think you can save my life and refuse my thanks as I mean to express them—you are mistaken. I will be perfectly honest. Lying out here isn't just what I'd choose for comfort. But if by doing it I could see you once in two or three days—"

"You won't see me again."

"No news could be worse. And if I can't, I don't know how I'm going to get out at all. I've no horse—you know that. I can't stand on my foot yet; if you had a light you might see for yourself. I think I showed you my gun. If you could tell me where I am—"

He halted on the implied question. Nan took ample time to reply.

"Do you mean to tell me you don't know where you are?" she asked, and there was a touch of vexed incredulity in her tone.

De Spain seemed unmoved by her scepticism. "I can't tell you anything else," he said simply. "You couldn't have any idea I crawled up here for the fun of it."

"Then—you are in Morgan's Gap," she said swiftly, as if she wanted it off her mind.

There was no movement of surprise, neither was there any answer. "I supposed, when I found you here, you knew that," she added less resolutely; the darkness and silence were plainly a strain.

"I know you are telling the truth," he responded at length. "But I can hardly believe it. That's the reason, of course, you did find me. I rode a good many miles that night without knowing where I was or what I was doing. I certainly never figured on winding up here. How could I get in here without being stopped?"

"Everybody inside the Gap was outside hunting for you, I suppose."

"There isn't much use asking where I am, in the Gap. I never was inside but once. I shouldn't know if you did tell me."

"You are at the foot of Music Mountain, about a mile from where I live."

"You must have thought I meant to raid your house. I didn't. I was hit. I got mixed up in trying to get away. You want me out of here?"

"Very much."

"No more than I want to get out. Perhaps by tomorrow I could walk a few miles. I should have to assassinate somebody to get some ammunition."

"It wouldn't be hard for you to do that, I presume."

Her words and her tone revealed the intensity of her dislike and the depth of her distrust.

He was silent for a moment. Then he said, without resentment: "You are ashamed already of saying that, aren't you?"

"No, I am not," she answered defiantly.

"Yes, you are. You know it isn't. If you believed it you never would have brought food here to save my life."

"I brought it to save some my own people from possible death at your hands—to prevent another fight—to see if you hadn't manhood enough after being helped, to go away, when you were able to move, peaceably. One cartridge might mean one life dear to me."

"I know whose life you mean."

"You know nothing about what I mean."

"I know better than you know yourself. If I believed you, I should disrespect you. Fear and mercy are two different things. If I thought you were only afraid of me, I shouldn't think so much of your aid. Listen—I never took the life of any man except to defend my own—"

"Don't class me with murderers."

"You are known from one end of the country to the other as a gunman."

He answered impassively: "Did these men who call me a gunman ever tell you why I'm one?" She seemed in too hostile a mood to answer. "I guess not," he went on. "Let me tell you now. The next time you hear me called a gunman you can tell them."

"I won't listen," she exclaimed, restive.

"Yes, you will listen," he said quietly; "you shall hear every word. My father brought sheep into the Peace River country. The cattlemen picked on him to make an example of. He went out, unarmed, one night to take care of the horses. My mother heard two shots. He didn't come back. She went to look for him. He was lying under the corral gate with a hole smashed thru his jaw by a rifle-bullet that tore his head half-off." De Spain did not raise his voice nor did he hasten his words. "I was born one night six months after that," he continued. "My mother died that night. When a neighbor's wife took me from her arm and wrapped me in a blanket, she saw I carried the face of my father as my mother had seen it the night he was murdered. That," he said, "is what made me a 'gunman'. Not whiskey—not women—not cards—just what you've heard. And I'll tell you something else you may tell the men that call me a gunman. The man that shot down my father at his corral gate I haven't found yet. I expect to find him. For ten years I've been getting ready to find him. He is here—in these mountains. I don't even know his name. But if I live, I'll find him. And when I do, I'll tear open his head with a soft bullet in the way he tore with that man" — he hesitated — "they may call me whatever they like."

(To be continued.)

PIECES *to* SPEAK

We shall be glad to procure and publish poems in this department on request if possible. We believe that the old-time custom of learning and speaking pieces at school and public gatherings should be encouraged, and we desire to aid in such work by publishing suitable pieces.

I REMEMBER, I REMEMBER

(1917 Version)

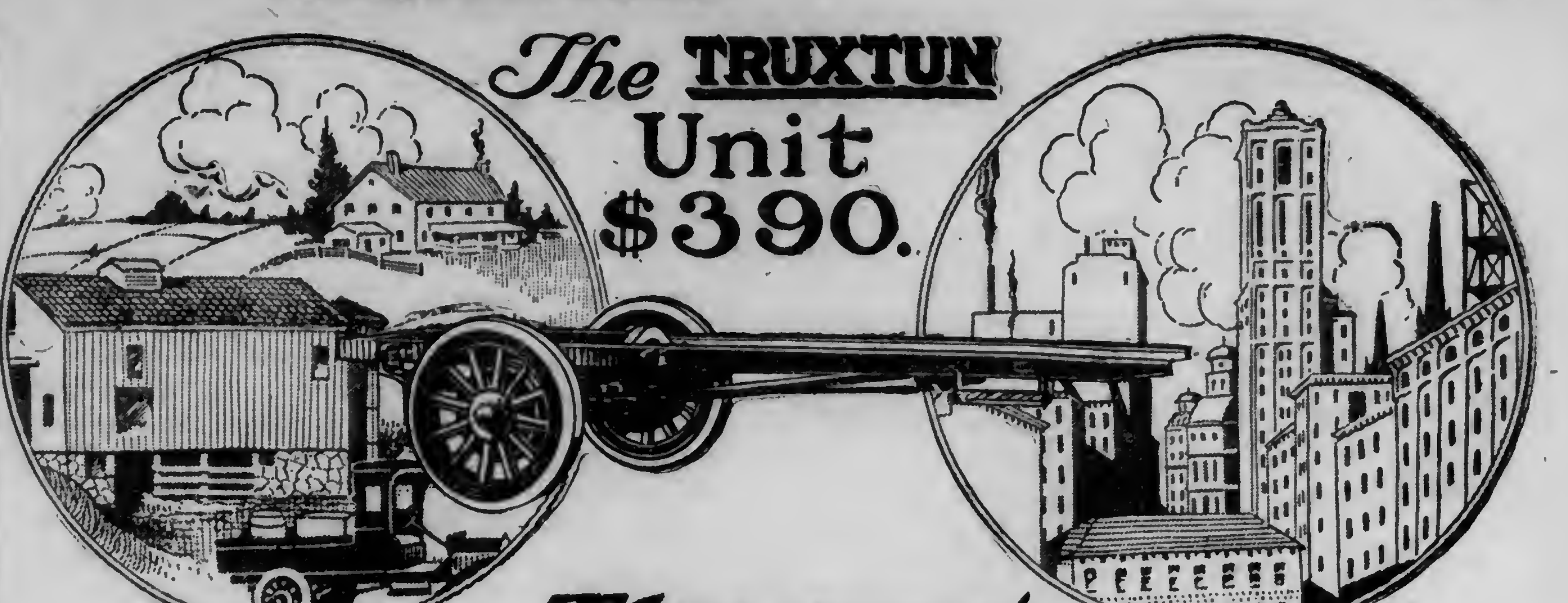
I remember, I remember,
  The house where I was born;
The little window where the sun
  Came peeping in at morn.
You'd hardly know the old place now,
  For dad is up to date
And the farm is scientific
  From the back lot to the gate.

The house and barn are lighted
  With bright acetylene,
The engine in the laundry
  Is run by gasoline.
We have silos, we have autos,
  We have dynamos and things;
A telephone for gossip,
  And a phonograph that sings.

The hired man has left us,
  We miss his homely face;
A lot of college graduates,
  Are working in his place,
There's an engineer and fireman
  A chauffeur and a vet,
'Lectrician and mechanic—
  Oh, the farm's run right you bet.

The little window where the sun
  Came peeping in at morn
Now brightens up a bath room
  That cost a car of corn.
Our milkmaid is pneumatic
  And she's sanitary too;
But dad gets fifteen cents a quart
  For milk that once brought two.

—Canadian Courier.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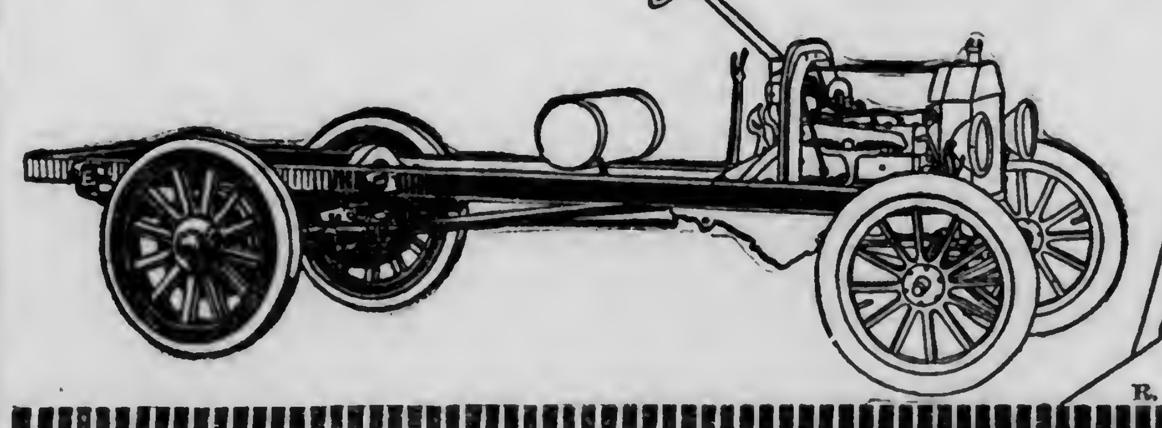

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Comparative Cost of Feeds

Results of a Three-Year Experiment

By DEPARTMENT SPECIALISTS

Feed to produce one dozen eggs costs 10 cents wit hpullets, 14 cents with two-year-old hens, and 19 cents with three-year-old hens in a three-year feeding test recently reported by poultrymen of the United States Department of Agriculture. These were the cost figures of feed at the time of the experiment, which began in 1912, and must be corrected to present prices. Tables of rations and costs presented in the report enable poultrymen to make these corrections when compared with 1917 prices.

Starting with six pens of 30 pullets each, the test was enlarged to include 16 pens containing 366 fowls. Most of the pens were made up of 30 standard-bred pullets, bred and reared under the same conditions and selected for vigor, standard shape, and color. Some flocks consisted of fowls of one breed while others contained more than one kind of pure-bred fowls of the general-purpose type. Pens of cross-bred pullets also were used.

Keep the Hen Houses Healthy by Thorough Spraying

With the exception of three flocks which were confined to good-sized yards, all the fowls were allowed free range over several acres of rough land. Detailed records were kept of the feed used, the weight of the eggs, and careful observations were made of the conditions which affect egg production, such as molting and broodiness. The test was conducted on the experiment farm of the Bureau of Animal Industry, at Beltsville, Maryland. Summarizing the results of the tests, the specialists draw these conclusions:

The average egg yield for the first laying year in all pens was 131 eggs, and the highest pen average yield was 169.5 eggs. In the second year the average egg yield of all pens was 92.7 eggs, which decreased to 78.2 eggs in the third laying year.

The average value of eggs over feed cost the first laying year was $2.56 per hen, falling to $1.41 the second year, and to $0.79 the third year. The highest average value in any pen was $3.41.

The general-purpose fowls consumed annually 72 pounds of feed which cost $1.1. while the Leghorns ate 55 pounds, which cost 87 cents.

Good results were obtained with rations both with and without oats. The use of this grain added variety to the ration without increasing the cost.

Fowls not fed any beef scrap or other animal protein laid only 90 eggs during their pullet year compared with 137 eggs from the beef-scrap pens, and 84 compared with 83 in their second year. The eggs of the no beef scrap pens cost about 2.2 cents per dozen more to produce the first laying year, but these costs were about equal during the second year. The fowls not fed beef scrap laid very poorly in winter, thus materially reducing the value of their eggs.

Cottonseed meal used in place of beef scrap as a high-protein feed in the ration produced brown or greenish spots on the yolks of the eggs, especially in warm weather, making a considerable proportion of them unfit for market. Eggs were produced more cheaply and at a considerably greater profit on the beef-scrap ration.

Fish meal at $7 a ton less than beef scrap proved to be a good high-protein feed, which can be used to an advantage to replace beef scrap. The fish meal did not in any way affect the flavor or quality of the eggs.

General-purpose fowls allowed to select their own mash constituents ate a dry mash containing about 63 percent corn meal, 19 percent beef scrap, 9 percent bran, and 9 percent middlings. Leghorns ate a mash of about 66 percent corn meal, 26 percent beef scrap, and 4 percent each of bran and middlings. No better results were obtained by this method of feeding than where the ground grains were mixed together in a mash.

Good mashes, as indicated by these experiments, may be made of 66 percent corn meal, 26 percent beef scrap, and 4 percent each of bran and middlings, or 2 pounds of corn meal and 1 pound each of bran, middlings, and beef scrap, with a scratch feed in each ration of equal parts by weight of cracked corn, wheat, and oats, which is fed so that the hens receive about equal parts of scratch feed and of mash.

The Leghorns on free range gave a considerably greater egg yield than those confined to a fair-sized yard. This difference was less marked in the general-purpose hens.

Sprouted oats fed as green feed to hens confined to yards cost about 10 cents per hen a year and 1 cent per dozen eggs, not including any charges for labor and equipment. The hens ate on an average in one year about 1.3 pounds of oyster shell and 0.7 of a pound of grit, which together cost about 1 cent per hen.

The Leghorns did not lay as well in the winter as the general-purpose breeds, especially during their second year, but the Leghorns produced eggs about 3 cents per dozen cheaper during their first year, 6.4 cents cheaper in their second year, and 9.8 cents cheaper in their third year than the general-purpose breeds. One pen of Leghorn pullets produced eggs in their first year at a feed cost of 6.7 cents per dozen, while the value of the eggs per hen for the year was $3.41 over cost of feed.

The average weight of a dozen eggs from the general-purpose fowls during their pullet year was 1.53 pounds, 1.60 during their second year, and 1.63 during their third laying year. The eggs from the Leghorns averaged 1.45 pounds during their pullet year, and 1.49 during their second and third years.

The egg production of the general-purpose fowls decreased 32 percent in their second laying year. The decrease was considerably less in the Legnorns, their 2-year average egg production exceeding that of the general-purpose breeds by 19 eggs. The decrease in production from the second to the third year was only 4 percent with the Leghorns, compared with 13 percent in the general purpose breeds.

The cheapest eggs are produced in the spring, during April, May, and June, while the greatest costs occur in October, November, and December. The lowest monthly feed cost of a dozen eggs in any of these experiments was 4 cents, while in some cases no eggs at all were produced during the month.

HOUSING THE WINTER HEN

With eggs selling at the present time in the neighborhood of 50 cents a dozen, and with excellent prospects of reaching the dollar mark before spring, the poultryman who sees an opportunity to get in on this high price must be prepared before winter sets in to push his pullets as rapidly as possible. The present high cost of feed will not be such a factor as many fear if precautions have been taken to see that the flock is comfortably housed. Many an otherwise shrewd poultryman is feeding high-priced grain to his fowls and wondering why they do not lay. He fails, however, to notice that much of the carbohydrates he gets from his corn is being used up by the flock to keep warm, and that it is next to impossible for the most energetic hen to lay under the conditions presented by many poultry houses.

A neighbor, some years ago, built what was then regarded as the last word in poultry house architecture. It had a sloping glass front about eight feet high, so that it was a perfect sun parlor when the sun shone. The builder, however, failed to take into consideration that there are days and days when the sun does not shine in the winter months in this latitude, and when the fowls in such a building stand aimlessly about on one foot and do everything but lay eggs.

The poultryman who is in the business to get eggs when prices are highest has in late years given the preference to a compromise between the glass-front house and the open front. The latter was praised by many breeders a few years back as the best house for poultry in either winter or summer. Their advantages in the summer are not to be overlooked, but as winter houses they have failed to live up to the expectations of their advocates. The open-front house is not as popular as it was a few years ago, because this type of building has not proved satisfactory, either for utility birds or exhibition fowls. It is entirely too cold for this section of Pennsylvania — Berks County—where there are nights when the thermometer goes down to zero for a week at a time. I have never regarded frosted combs as beauty points in the show room, and heavy colds will check the laying of hens.

Any country carpenter or handy man can be trusted with the job of building a shed-roof poultry house with three tight walls and a non-leaky roof, but the southern exposure, which I have found the most important part of the building, is frequently botched. Most carpenters, with their ideas of poultry houses gained by the old-fashioned ones in their immediate neighborhood, insist on building the south front tightly boarded up, with only a small window and a door. To get the best results in a house for winter layers in the way of sunshine, it is necessary to arrange the southern exposure so that the full benefit of the sun may be gained. During the winter months the sun is low in the heavens, and in order to permit the maximum of sunshine in these short days the windows must be placed so that the sun will shine on the fowls. If placed too high, the sun will be wasted on the dropping board; if placed too low, only a small portion of the floor will benefit.

On most poultry farms the houses are built too high. An elevation of six feet in the rear and eight feet in front is too high, and besides a waste of valuable lumber. A high poultry house is an advantage only when one has particularly tall help employed, and in these days of labor scarcity one generally has to be content with half-grown boys.

I have cut down houses to five feet in the rear and seven feet in front, and still think they could be lowered a trifle to advantage. In this climate it will make a much warmer building than the high one. The roof is brought nearer to the fowls' heads and holds the heat given off by their bodies closer to them. The writer has placed the window sashes about 14 inches from the floor with better results, inserting a muslin curtain in the opening formerly used by the windows. With the muslin curtain better ventilation may be had in warmer weather and on days in winter when the sun is warm at noon. A strip of old rag carpet may be hung across the opening in addition to the muslin on zero nights.

An old house may be cheaply and quickly remodeled in this way so far as its southern exposure is concerned, and the remodeled building will have all the advantages of the open-front building with none of its disadvantages.

When it is at all possible the interior of the building should be covered with felt paper and made as comfortable as if the owner were to occupy it for the winter instead of the hens. I have found it impossible to get eggs when fowls are sneezing and moping about from colds and roup.—A. J. Bradley, Berks Co., Pa.

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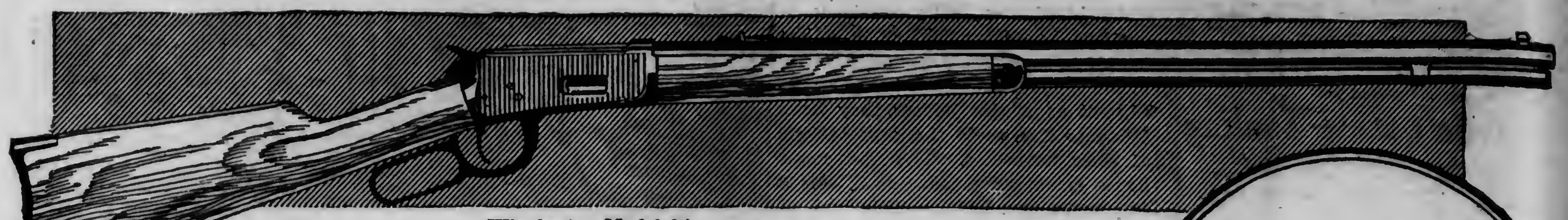
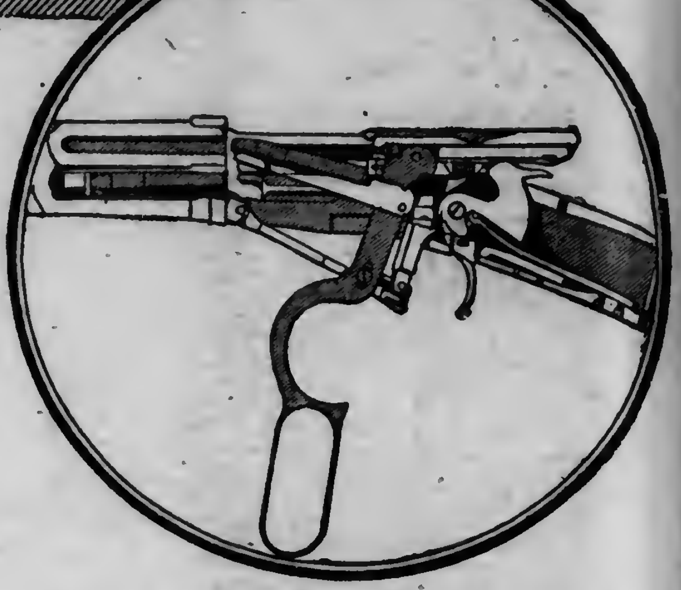
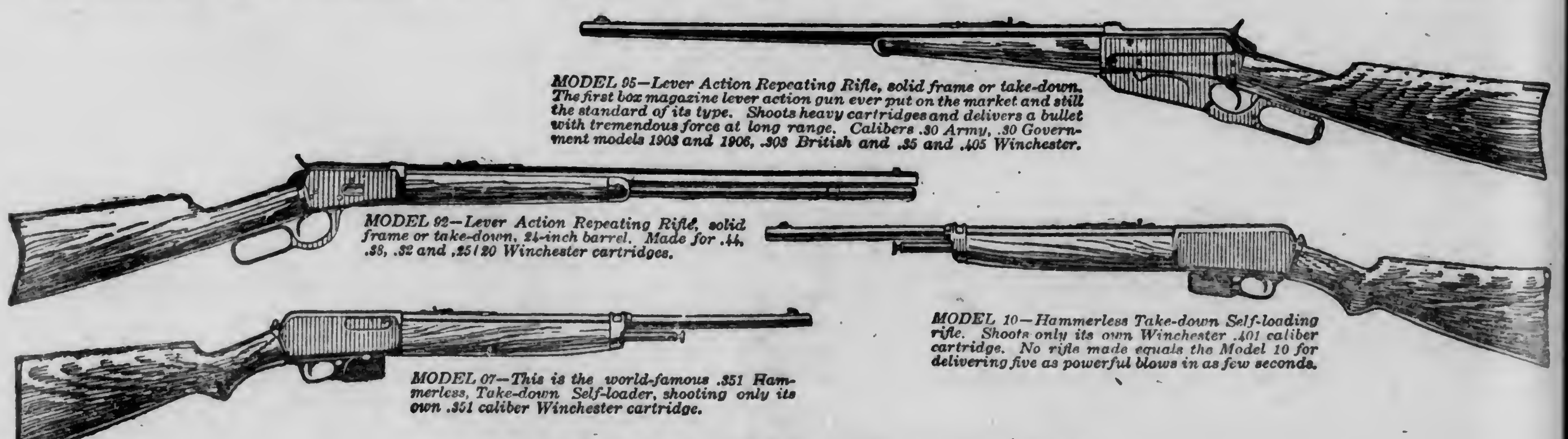
J. A. SHOTT, New Wilmington, Pa







Winchester Model 94

Why Sportsmen choose the "94"

Strong, smooth action, few working parts of the Model 94

The Winchester Model 94 repeating rifle is chosen by more sportsmen than any other because of its wide variety of uses.

The Model 94, as nearly as any rifle on the market, is an all-'round rifle.

Deer hunters choose it because it is a sure game-getter within the range that most shots at deer come.

Campers and canoe hunters take it because it is accurate even for birds, makes very little noise, and will stand all sorts of rough handling.

New shooters prefer it because of its lightness and very slight recoil.

Farmers demand it because they can get it in the exact caliber they need, at a low price, and can buy the ammunition for it anywhere that firearms are sold.

Because of this wide adaptability the Winchester Model 94 is the gun for the one-gun hunter; but for the same reason it is also a great favorite with sportsmen who own many guns.

The Winchester Model 94 is furnished in a great variety of styles, in five different popular calibers, (.25-35 and .30 Winchester, .32 Winchester Special, .32-40 and .38-55 cartridges), and in an extra lightweight model (weight about 7½ lbs.). For the high power cartridges this rifle is fitted with a nickel steel barrel.

The barrel *is* the gun

Men who know guns realize that the accuracy and durability of a rifle lie in the barrel. On the quality of the barrel depends the quality of the gun. There is absolutely no difference in the standard of quality of the barrels on the highest and lowest priced Winchester guns. With Winchester the barrel *is* the gun and the single standard of quality has been attained only by the most unremitting attention to the boring, finishing and testing of the barrel.

The Winchester barrel

The barrel of the Winchester Model 94 has been bored to micrometer measurements for the cartridge it is meant to shoot. In rifling the barrel, the exact twist that is necessary to produce the best results with a given cartridge has been mathematically calculated and is verified by exhaustive practical tests before leaving the factory.

A bullet fired from a Winchester barrel spins point on with unerring accuracy to the limit of its range. The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a distinctive blue finish that, with proper care, will last a lifetime.

What ⓦ means

This mark on the barrel means *Viewed and Proved Winchester.* This stamp stands for Winchester's guarantee of quality, with 50 years of the best gun-making reputation behind it.

Every rifle that bears the name "Winchester" and that is marked with the Winchester Viewed and Proved stamp has been fired many times for accuracy and smooth action, and with excess loads for strength. At every stage of Winchester manufacture, machine production is supplemented by human craftsmanship. It is a *test and adjustment process.*

It is this thoughtful care in manufacturing that has produced in the Model 94 a rifle of unsurpassed game-getting qualities and that has made it the favorite with hunters the world over.

Write for details of Winchester rifles, shotguns and ammunition

The Winchester catalog is an encyclopedia on rifles, shotguns and ammunition. Every hunter should have one. It gives detailed specifications of the Model 94 and describes at length the principles on which every one of the world famous Winchester rifles and shotguns is built. Write today. We will mail you a copy free, postpaid.

WINCHESTER REPEATING ARMS CO.
Dept. WS-5 New Haven, Conn

MODEL 95—Lever Action Repeating Rifle, solid frame or take-down. The first box magazine lever action gun ever put on the market and still the standard of its type. Shoots heavy cartridges and delivers a bullet with tremendous force at long range. Calibers .30 Army, .30 Government models 1903 and 1906, .303 British and .35 and .405 Winchester.

MODEL 92—Lever Action Repeating Rifle, solid frame or take-down, 24-inch barrel. Made for .44, .38, .32 and .25/20 Winchester cartridges.

MODEL 10—Hammerless Take-down Self-loading rifle. Shoots only its own Winchester .401 caliber cartridge. No rifle made equals the Model 10 for delivering five as powerful blows in as few seconds.

MODEL 07—This is the world-famous .351 Hammerless, Take-down Self-loader, shooting only its own .351 caliber Winchester cartridge.

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
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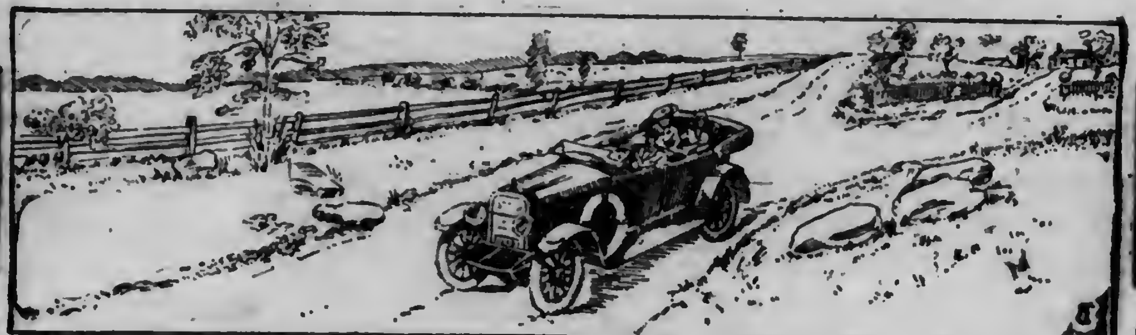
Books For The Farmer's Library



Every farmer should possess a good working library. Standard, up-to-date, practicable books treating of the leading enterprises in which one is interested are as essential to successful farming as are books on medicine or law necessary to the success of the doctor or lawyer.

There is now a wealth of literature on all phases of agriculture from which to select. The books most helpful will depend on location and the type of farming in which one is engaged. At least one good book on each of the subjects—soils, fertilizers and field crops—will be needed on nearly every farm. Most farmers should also have one on farm management and one on buildings and farm machinery. Books on horticulture, market gardening, dairying, etc., will be selected according to the kind of farming. One good reference book on general agriculture will always be found especially useful.

Below is a fairly complete list of books on soils, fertilizers, field crops, buildings and machinery, and farm management. Others follow in different branches of agriculture. Selections should be made to best meet one's needs. A farmer's library is generally a matter of gradual growth. A few books should be added each year.

Soils.—"Soils", by Burkett, The Orange Judd Company, New York; "Soils and Soil Fertility", by Whitson & Walster, Webb Pub. Co., St. Paul, Minn.; "First Principles of Soil Fertility", Vivian, Orange Judd Co.; Principles of Soil Management", Lyon & Fippin, MacMillan Co., New York; "Soil Management", King, The MacMillan Co.; Soil Fertility and Permanent Agriculture", Hopkins, Ginn & Co., New York.

Fertilizers. — "Farm Manures", Thorne, Orance Judd Co.; "Manures and Fertilizers", Wheeler, The MacMillan Co.; "Soils and Fertilizers", Snyder Pub. Co., Easton, Pa.; "Fertilizers", Voorhees, The MacMillan Co.; "Fertilizers and Crops", Van Slyke, Orange Judd Co. All practical in this section.

Field Crops.—"Crops and Methods of Soil Improvement", Agee, MacMillan Co.; "Field Crops", Livingston, MacMillan Co.; "Field Crops", Wilson & Warburton, Webb Pub. Co.; "Productive Farm Crops", Montgomery, Lippincott, Philadelphia; "Corn Crops", Montgomery, MacMillan Co.; "Book of Corn", Myreck, Orange Judd Co.; "Book of Wheat", Donalinger, Orange Judd Co.; "Plant Breeding", Bailey & Gilbert, The MacMillan Co.; "Small Grains", Carleton, The MacMillan Co.; "Forage Plants and Their Culture", Piper, The MacMillan Co.; "Forage and Fiber Crops In America", Hunt, Orange Judd Co.; "Forage Crops", Voorhees, MacMillan Co.; "Soiling Crops for the Silo", Shaw, Orange Judd Co.; "Clovers and How to Grow Them", Shaw, Orange, Judd Co.; "Grasses and How to Grow Them", Shaw, Orange Judd Co.; "Alfalfa in America", Wing, Sanderson Pub. Co., Chicago, Ill.; "Meadows and Pastures"; Wing, Orange Judd Co.; "The Potato", Fraser, Orange Judd Co.; "Potatoes for Profit", VanOrman; "The Potato", Grabb & Gifford; "Potatoes and How to Grow Them", Pink; "Tobacco Leaf", Killebrew, Orange Judd Co.; "Tobacco; History, Culture and Varieties", Billings.

Weeds.—"A Manual of Weeds", A. E. George, the MacMillan Co.; "Weeds and How to Eradicate Them", Shaw, Orange Judd Co.

Buildings, Machinery and Farm Management.—"Farm Structures", Ekblaw, The MacMillan Co.; "Farm Machinery and Farm Motors", Davidson & Chase, Orange Judd Co.; "Farm Gas Engines", Herchfield & Ulbricht; "Rural Hygiene", Ogden, The MacMillan Co.; "Practical Farm Drainage", Elliott, J. Wiley & Sons; "Farm Management", Warren MacMillan Co.; "Farm Management", Boss, Lyens & Carnehan; "Farm Management", Card, Doubleday, Page & Co.; "Principles of Rural Economics", Carver, Ginn & Co.; "Marketing of Farm Products", Weld, MacMillan Co.; "Co-operation in Agriculture", Powell, MacMillan Co.

Reference Books.—"Successful Farming", Gardner, The J. C. Winston Co., Philadelphia; "Cyclopedia of Agriculture", Bailey (4 vols.), The MacMillan Co.—Prof. F. D. Gardner.

A Few Choice Black and Whites in Pastures Green

Books On Horticulture

The first book on American Horticulture written by an American was "The American Gardener", by John Gardner, published in 1804. Horticulture separated from agriculture, commercially, about 1840; since then there has been a marked increase in the number of publications devoted to commercial horticulture. We need a revival of the amateur spirit of Downing, Meehan and Wilder. The especial need, in the way of books, is for more monographs of special topics.

The most comprehensive and useful work on American horticulture is "The Standard Cyclopedia of Horticulture", edited by L. H. Bailey, in six volumes (The MacMillan Company, New York, $36). It contains signed articles by specialists on every phase of practical horticulture, arranged alphabetically. One of the best single books on general horticulture is Bailey's "Manual of Gardening" (The MacMillan Company, $1.50). It discusses the culture of fruit and vegetables and the planting and care of home grounds from the point of view of the home maker, not of the commercial grower. Among the most useful books on general fruit growing are: "Productive Orcharding" by F. C. Sears (J. B. Lippincott Company, Philadelphia, $1.50), and "The Principles of Fruit Growing" by L. H. Bailey (MacMillan Company, $1.75). Sears book deals more particularly with the apple; other good books on special fruit are: "The American Peach Orchard" by F A. Waugh (Orange Judd Co., New York, $1.00); "Bush Fruits" by F. W. Card (MacMillan Company, $1.50). The New York Experiment Station, Geneva, N. Y., has published four excellent monographs with colored plates entitled "The Apples of New York", "The Grapes of New York", "The Plums of New York" and "The Cherries of New York". These deal mainly with history, botany and descriptions of varieties, but the cultural directions are good. They can be secured for $3.75 each or $12 a set from John Skinner's Book Store, Albany, New York. They are an excellent set of publications.

Vegetable Gardening.—The outstanding books on "Vegetable Gardening" by R. L. Watts (Orange Judd Company, $1.75), "Garden Farming" by L. C. Corbett (Ginn & Company, Boston, $2), "Vegetable Gardening" by Samuel B. Green (Webb

Pub. Co., Minneapolis, Minn. $1.25), and "Productive Vegetable Growing" by John W. Lloyd (Lippincott Company, $1.50). Among the numerous books on special vegetables the following are worthy of note: "Celery Culture" by W. R. Beattie (Orange Judd Co., $.50), "The Potato" by A. W. Gilbert (The MacMillan Co. $1.75), and "Tomato Culture" by W. W. Tracy (Orange Judd Company, $.50).

Greenhouse Gardening.—The literature of greenhouse gardening is more limited. "Greenhouse Construction and Heating" by David Lumsden is the most recent presentation of this subject (MacMillan Co. $1.75); "The Forcing Book" by L. H. Bailey (MacMillan Co. $1.25) covers the forcing of vegetables only; a more comprehensive survey of the field will be given in "Vegetable Forcing" by R. L. Watts, which is now in preparation (Orange Judd Co). Henderson's "New Hand Book of Plants" (Orange Judd Co., $3) is still valued, but "Principles of Floriculture" by E. A. White is more up to date (MacMillan Co. $1.15). A few of the useful publications on special crops are "Commercial Violet Culture" by B. T. Galloway ($1.50), "Commercial Rose Culture" by Eber Holms ($1.75), and "The Commercial Carnation" by J. Harrison Dick ($1.75). All are published by the A. T. Della Mare Publishing Co., New York.

Landscape Gardening.—Books on professional landscape gardening will not be included but there should be at least one book on the planting and care of home grounds. In addition to Bailey's "Manual of Gardening", previously noted, which will prove useful in every home, see "How to Plan the Home Grounds" by Samuel Parsons (D. McClure Co., New York, $1.). Two of the best books on insects, diseases and spraying are "Fungous Diseases of Plants" by B. M. Duggar (Ginn & Co. $2.), and "Insect Pests of the Farm, Garden and Orchard" by E. D. Sanderson (John Wiley & Co., New York, $1.50).—Prof. S. M. Fletcher.

Animal Husbandry Books

A great many books have been written during the past few years on subjects relating to animal husbandry. Many of these deal with special classes of live stock, while others cover in general such phases as management, breeding and feeding. The list of books given preference are those that seem best suited for the evenly balanced library for the live stock farmer. Others may be substituted with equal success if desired.

Feeds and Feeding.—The revised and rewritten edition of "Feeds and Feeding" by Henry and Morrison, is probably the most comprehensive and complete treatise on this subject. It brings up to date the results of feeding experiments conducted by the experiment stations in the United States and Canada. These experiments are summarized and condensed in such a manner as to make them readily understood by the average reader. It deals with the composition of feeds, and feeding of all classes of stock.

Breeding Live Stock.—"Breeding Farm Animals" by Marshall is given the preference due to the fact that it is a simple treatise of the subject, dealing with both the scientific and the practical side of animal breeding.

Stock Judging.—"Judging Live Stock" by Gay is arranged in a manner to make it well adapted to the study of judging farm animals. It is simple, concise and well illustrated.

Types and Breeds.—"Types and Breeds" by Plumb deals with the early history and development of all breeds of live stock. It also gives the breed characteristics and the description of type to make possible to recognize the different breeds.

Horses.—Productive Horse Husbandry" by Gay deals with practically all phases of the horse. It describes the various breeds and types, the feeding, breeding and general management of farm horses.

Swine.—"Productive Swine Husbandry" by Day gives a review of a good deal of experimental work in swine feeding as well as practical suggestions by the author on feeding and breedthe finished product.

A Valuable Community Building Going to Ruin.

Sheep.—"Sheep Management" by Kleinheintz deals with the practical management of the farm flock based upon the experience of the author. It covers all phases of selection, breeding, feeding and handling of the farm flock. It is written in plain language, making it easily understood by the average reader.

Diseases.—"Diseases of Animals" by Craig gives the symptoms of the common diseases of live stock and methods of treatment. It aids the live stock producer in dealing with many of the common diseases without aid of a veterinarian.

Poultry.—"Productive Poultry Husbandry" by Lewis covers the field thoroly. The author deals with all phases of management, such as rearing, incubation, feeding and marketing.

In addition to those given above, there are a large number of books dealing with different phases of the live stock industry that would make a valuable addition to any agricultural library, as follows: "Beef Production", by Mumford; "Productive Feeding of Farm Animals" by Woll; "Feeding Farm Animals" by Shaw; "Profitable Stock Feeding" by Smith; "Feeding Farm Animals" by Jordan; "Shorthorn Cattle" by Sanders; "Hereford Cattle" by Sanders; "Stock Judging" by Plumb; "Stock Judging" by Curtis; "Stock Judging" by Craig; "Sheep Feeding and Management" by Shaw; "Sheep Feeding and Management" by Craig; "Hog Book" by Dawson; "Forty Years' Experience in the Hog Business" by Lovejoy: "Swine Breeding, Feeding and Management" by Dietrick; "Breeding Farm Animals" by Harper; "Principles of Breeding" by Davenport; "Market Types and Classes" by Vaughn; "Types and Breeds of Live Stock" by Gay; "Farm Horses" by Harper; "Veterinary Studies" by Reynolds; "Diseases of Animals" and "Diseases of Horses" by U. S. Department of Agriculture.—Prof. W. H. Tomhave.

For Dairy Farmers

The following books, relating to dairy farming and dairy practices, can be recommended for a farmer's library. There are many valuable books and bulletins not mentioned in the list below, but it is assumed that the desire is to have a selection covering the various subjects rather than all books published.

Dairy Farming Books.—"Dairy Farming", Eckles and Warren, MacMillan Company; "Feeds and Feeding", Henry-Morrison, Henry-Morrison, Madison, Wis.; "Dairy Cattle Feeding and Management", Larson & Putney, Wiley & Sons; "Judging Farm Animals", Chas. Plumb, Orange Judd Co.

Bulletins.—Bulletin 274, Judging Dairy Cows, Wisconsin Experiment Station, Madison, Wis.; Extension Circular 52, Live Stock Judging, Pennsylvania Experiment Station, State College, Pa.; Extension Circular 43, Profitable and Unprofitable Cows, Pennsylvania Experiment Station; Farmers' Bulletin 504, U. S. Department of Agriculture, Washington, D. C.; Bulletin 743, The Feeding of Dairy Cows, U. S. Department of Agriculture; Bulletin 193, Skimmilk and Milk Substitutes, Purdue University, Lafayette, Ind.; Farmers' Bulletin 589, Homemade Silos, U. S. Department of Agriculture; Silos and Silo Construction, Kansas Agricultural College, Manhattan, Kansas; Press Bulletin 526, Filling the Silo, Iowa Experiment Station, Ames, Ia.; Circular 53, Silo Filling, Kansas Agricultural College; Circular 71, Shock Corn for Silage, Missouri Experiment Station, Columbia, Mo.; Farmers' Bulletin 345, Some Common Disinfectants, U. S. Department of Agriculture; Research Bulletin 22, Silage Investigations, Missouri Experiment Station, Columbia, Mo.; Bulletin 141, Modern Silo Construction, Iowa Eperiment Station; Bulletin 143, Computation of Dairy Rations, Pennsylvania Experiment Station; Bulletin 179, Construction and Equipment of Dairy Barns, Kentucky Agricultural Experiment Station, Lexington, Ky.; Circular 131, Bureau of Animal Industry, U. S. Department of Agriculture.

Dairy Practice Books.—"Milk and Its Products", Wing, MacMillan Company; "Modern Methods of Testing Milk and Milk Products", Van Slyke, Orange Judd Company; "Science and Principles of Cheese Making", Van Slyke & Publow, Orange Judd Company; Manufacturing of Ice Cream and Ices", Fransden & Markham, Orange Judd Company; "The Milk Question", M. J. Rosenau, Houghton-Mifflin Company, Boston, Mass.; "Pasteurization of Milk from a Practical Viewpoint", Kilbourne, Wiley & Son.

Bulletins.—Bulletin 78, Manufacturing Neufchatel Cheese, Connecticut Experiment Station, Storrs, Conn., useful to all farm cheesemakers; Bulletin 211, Buttermilk Cheese Making, Wisconsin Experiment Station; Bulletin 210, Skimmilk Cheese, Department of Agriculture, Harrisburg, Pa.; Farmers' Bulletin 487, Cheese in Economical Use in Diet, U. S. Department of Agriculture; Bulletin 135,Farm Butter Making, Pennsylvania Experiment Station; Bulletin 96, Care Milk and Buttermaking, Purdue University; Farmers' Bulletin 241, Buttermaking on the Farm, U. S. Dept. of Agriculture; Bulletin 141, A Study of Farm Buttermaking in New Hampshire, New Hampshire College, Durham, N. H.; Bulletin 353, Present Status of the Pasteurization of Milk, Geneva, N. Y.; Farmers' Bulletin 363, Milk as a Food, U. S. Department of Agriculture; Bulletin 166, Important Factors Effecting Machine Milking, S. D. Experiment Station, Brookings, S. D.; Farmers' Bulletin 748, A simple Steam Sterilizer for Dairy Farms, U. S. Department of Agricul-
land owner and tenant, as the potato.
finements, Geneva; Bulletin 205, Milk and Cream Contests, Bureau of Animal Industry, U. S. Department of Agriculture; Farmers' Bulletin 348, Bacteria in Milk, U. S. Department of Agriculture; "Household Bacteriology," R. E. & E. D. Buchanan, MacMillan Co.; "Bacteria in Relation to Country Life", J. G. Lipman, MacMillan Co.; "Bovine Tuberculosis", V. A. Moore, Carpenter Company, Ithaca, N. Y.; Bulletins 317 and 353, Milking Machines, Geneva, New York, Experiment Station.—Prof. Fred Rasmussen.

Potato Production in Pennsylvania

No other crop is so universally grown by regular system of growing the crop. Many are grown in a hap-hazard way, without studying the adaptability of the crop to the soil. The ten-year average yield of the U. S. is 83 bushels per acre, and the average for Pennsylvania for 1914 was 106 bushels; 1915, 75 bushels; 1916, 70 bushels; average for three years, 83 bushels. Yet a number of farmers on large acreage have had an average of 324 bushels per acre, which certainly means the difference between success and failure. With a little study of the different phases of growing the crop, much improvement could be made and the yield largely increased.

Following are some of the important factors: 1st, selection of variety adapted to the soil and climate; 2nd, preparation of soil, including application of fertilizers; 3rd, selection and fumigation of seed; 4th, planting and cultivating; 5th, spraying for blight and insects; 6th, harvesting; and 7th, marketing.

The advantages of some varieties over others are: Heavier yields; more disease resistance; and better quality. The selection of a type as to shape, color and maturity would mean much in the final results. Fumigation of seed would eradicate skin disease very largely, which disease is so objectionable on the market.

More care in preparation of the soil and in regard to the amount and kind of fertilizers used in growing the crops is very essential. Cultivation aids greatly in liberating fertility, making it available as plant food. Lastly, the proper grading and distribution to markets are most important. There is a great need for a potato growers' association in Pennsylvania, where many of these problems could be discussed profitably. For illustration, the writer has long been a member of a tobacco growers' association which holds monthly meetings to discuss subjects relative to the growing of better tobacco. We had a small experimental plot and tested out twenty-five varieties of seed leaf tobacco, relative to quality and weight, and in a few years discarded all but four leading strains. From this experiment much good has resulted. This same kind of work could be just as successfully carried on in a potato growers' association and would not cost more than $1.50 for dues annually.

Soils which contain a large amount of vegetable matter are the most productive, and the cheapest way to obtain this condition is thru a regular rotation which includes a clover sod or other legume. Many of the most successful growers have a two-year rotation, as follows: Wheat, with an application of from 300 to 500 pounds commercial fertilizer per acre, chiefly ammonia and phosphoric acid, sowing timothy seed with the wheat in the fall, and clover seed in the following spring. After the wheat is harvested, and the clover blooms, it is clipped and left on the ground as a mulch. This helps to retain moisture and gives additional growth, which is plowed under, for potatoes. Sometimes stable manure is used to some extent in conjunction with commercial fertilizers. This has proved very successful for these two crops, wheat and potatoes.

In the three-year rotation, a crop of hay is harvested, following the wheat; the second growth is left on the field and plowed for potatoes the following spring.

Some of the most extensive growers used from one-half to three-fourths ton commercial fertilizer per acre. Owing to its high cost, potash has been eliminated in most instances recently. After this manner, on a clay limestone soil, the writer has grown successful crops by turning under a sod with a fair amount of stable manure, and in addition, one-half ton of 16 percent acid phosphate per acre, a few hundred pounds of the acid phosphate being applied in the row before dropping the potatoes.

There is little doubt but that, in many sections, much good could be accomplished by organizing a potato growers' association where ideas and methods could be compared and a more uniform system of growing developed. It would be much better if a variety adapted to the soil and climate of each section was grown. This would result in a more uniform crop in general. By such an association, methods could be worked out which would benefit producer, purchaser and consumer alike.—J. Aldus Herr, Lancaster Co., Pa.

WAR ECONOMY ON THE FARM

Whenever a financial panic hits a nation the farmers are about the last class to feel the effects of it. The same applies to a wave of prosperity, superinduced by war or abnormal conditions. As a consequence the farmer who keeps a good poise and steady nerve about these conditions generally wins out in the end.

Residents of the cities are obsessed with the illusion that the farmers are now accumulating fortunes. No thought is given to the increased cost of production, labor and every other item which is absolutely essential to maintain even the usual farm income. In full consideration of government influence and control in equalizing prices and commandeering distribution it appears evident to me that eventually the bottom is going to drop out and the law of supply and demand will control the market. So certain am I of this that I will predict it in less than six months and about the best the farmer can do is to scrupulously avoid waste and keep a stiff upper lip.

As I look into the general conditions on many farms I see many avoidable leaks which, if summed up, would go a long way in defeating the Kaiser's brain-storm of world conquest. The United States has on its hands the most gigantic job it ever attempted to put over, and its success demands every earning and productive source within our borders. No one has a sane right to demand leniency or concessions for his personal leisure and pleasure. If we do not get down to "brass tacks" and make good we are going to have the same baptism that our allies are getting. Men and money may not suffice. We may yet need to appeal to the Omnipotent in our cause for human safety against the vilest menace known to world history.

The happy-go-lucky everywhere might do well to give this matter thought. We are just beginning to feel the hardships of war. The earth's crust is not a factory twelve months in the year. Think of the mouths to be fed. Think of utilizing every possible substance for feed or food. Prepare for next year with the assurance that every commodity for food or feeding will be needed and will go far beyond any former prices once our ships are ready for transportation and are plying in a continuous chain between the continents.

This conflict is a real, genuine test for the moral sobriety of nations. Stop wasting. Stop foolish spending. Let there be one aim, one doctrine, one prayer. . . . That, peace on earth so needful to work out our soul's salvation, and good will towards all men.—D. C. Kauffman,

Crop Prices and Crop Production

A Criticism---Hard Cash the Price of War's Necessities---Daniel Dean, Tioga County, N. Y.

Note.—The following article was received as a personal letter. We publish it in appreciation of constructive criticism and because we believe that it is of general interest and suggestive value to our readers. See editorial comment on page 6, this issue.—The Editors.

I am very much disappointed to read in your issue of December 1, three articles which study food production and distribution for the benefit of food consumers, to the detriment of food producers. To state that the issue of one of your contemporaries of your city of this week is fairer to farmers, and thereby more patriotic would seem something which could not possibly be expected from a paper so largely sold in cities, as compared with a farmers' paper. But you have only to read its first two editorials and the article on "Patriotism and Milk Production" to see that the cityman's farm paper has got a grip on the fundamental facts of food production that you dodge all around.

Farmers have been starved off Pennsylvania farms for fifty years without a finger lifted by any city paper or any government to help them. The wages of farm labor, either that of the farmer himself or that of his son or the hired man, are lower than those of any city occupation, because the prices of farm produce are so low. Just the instant that farmers have any certainty that they can get better prices every one of us will pay our hired labor or our boys more.

The study of the thousands of New York state farms by the farm management department at Cornell has shown that one-third of New York farmers make less than hired men's wages, one-third the same, and one-third more. It is instantly obvious to any business man that when prices increase and the earning value of a day's labor is increased that every farmer will quickly hire every day's labor that he can get at an advanced wage in order to make more if he can.

Profit-sharing as advocated in one of your articles referred to is absolute nonsense when there are no profits, as in so much of the past. And it is useless, because increased wages are the quickest form of profit-sharing, and the one most satisfactory to the average laboring man. Much as I respect my friend Mr. Agee, it is only fair to say that he has only grasped half the problem of farm labor in his article. So long as Mr. Hoover continues his policy of forcing down farm labor prices thro the medium of food prices, the only result of stopping any city useless or detrimental occupation will be to send the labor so liberated into another higher-paid city occupation, not to the farm which cannot under the present laws afford to compete.

Many factories near here are paying $4 per day for unskilled labor of fair intelligence. Prof. Zavits of Guelph University, Ontario, tells me that Canada is steadily turning its potato and wheat land into pasture because of government price-pounding. England followed the same policy with the same result until the deadly fear of the submarine forced a reversal of policy. Do you know that the laws of England today make it a crime for any one to offer a farmer less than 81 cents per bushel for potatoes, or to conspire to force down the price? That price is so high compared with pre-war prices that it compares with $1.50 to $2.00 per bushel here. The natural result was that this season England has a surplus of potatoes while the old policy has produced severe shortages in France and Germany.

The Wilson-Hoover food policy has had for its first and greatest end low food prices, to please the insistent city consumer and city paper. Increased production has been practically forgotten. Wheat has been forced below the market price until the fall sowing shows an increase of only five percent in the face of much greater need. The year 1917 opened with the largest food prices on record and farmers all did their best under the stimulus. City gardeners added another large area of production and with a favorable season only just enough has been produced.

What will be the food production of 1918? With wheat forced down from above $3 to $2.20, with corn at $1.24 instead of $2.40, with potatoes at $1 instead of $3, one of the most powerful levers to increase production is gone. Many of the city gardeners have met with disappointment and will drop out in 1918. Hundreds of thousands of farmers, farmers' boys and farm laborers have volunteered or have been drafted, or will be before next fall. Hundreds of thousands of others have gone to the city factories for the high wages there.

Who will produce the food in 1918? It is idle to expect much increase in efficiency in food production for the farmers who are already the most efficient in the world. If the depleted ranks of farm labor are to be filled, and if there is to be made any provision for increased planting to meet the possibility of a bad season like 1916, then labor must be hired from cities. To talk of drafting labor is only nonsense. Every farmer knows well how inefficient the untrained city laborer is on the farm. No one dreams of drafting labor to produce the $20,000,000,000 of war munitions. No one talks of letting out school children, of conscripting union men's wives or of utilizing Boy Scouts for munition manufacture.

When munitions, ships, transportation or any other war need is to be filled, the one thing thought of is hard cash. More food is needed. That food will be produced when prices are paid which will allow farmers to hire the labor to produce it, and not before. When increased food production is the aim of the government, instead of lower prices, then prices will be raised to a point which will produce the food. You quote a letter from Mr. Hoover stating that "The production of dairy products must be stimulated in every
to farmers, and thereby more patriotic, would
way". He is jamming down the prices of dairy
versed then, and not until then, the production of dairy products will be stimulated.

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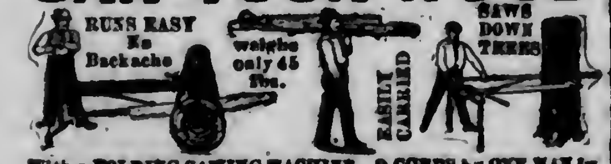

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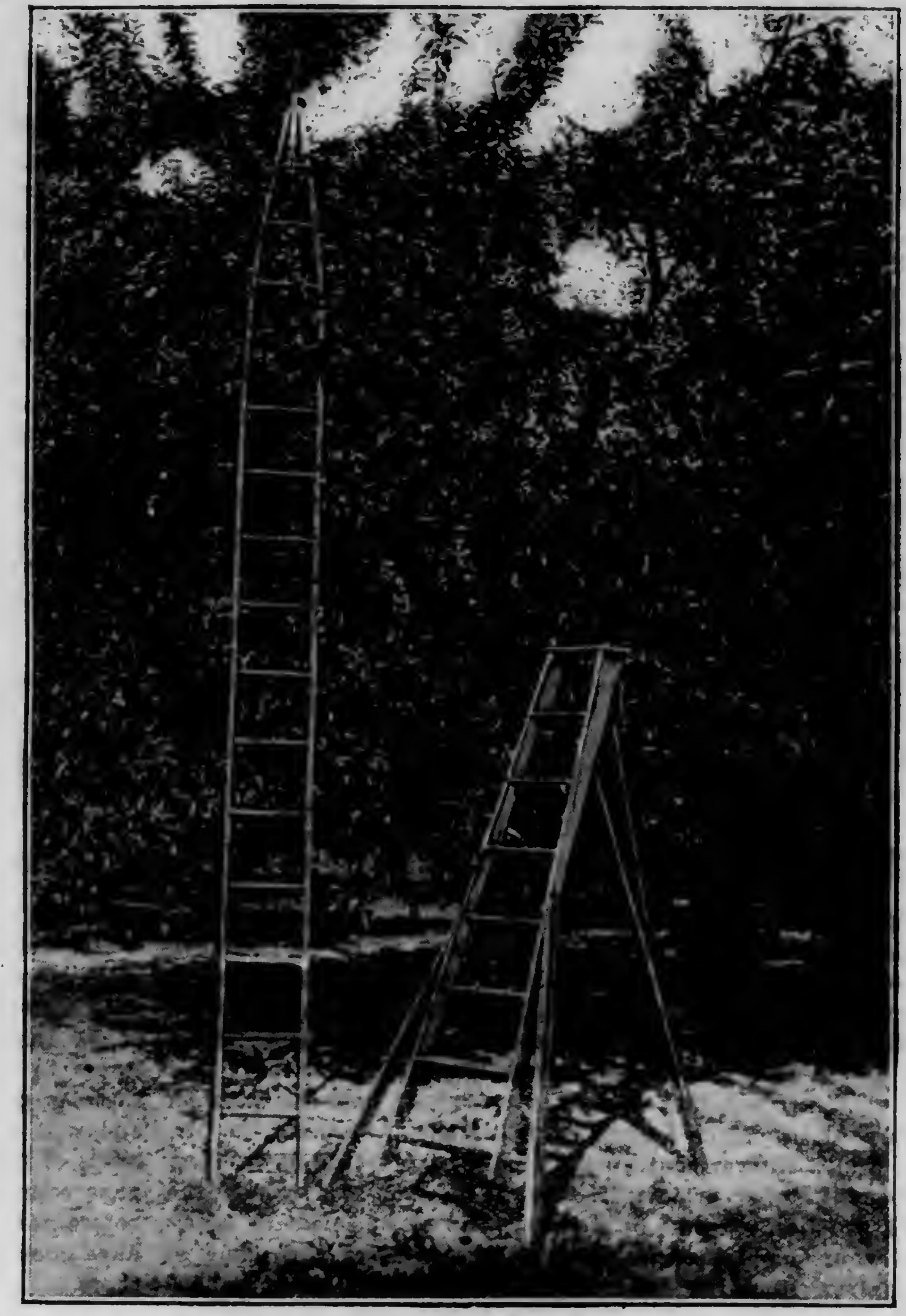
Horticulture

ORCHARD PICKING LADDERS

The ideal orchard picking ladder should be light, strong, rigid and easily handled. It has been the general practice among orchardists in the past to use the common four legged step-ladder for fruit near the ground, and an ordinary painter's ladder, either single or extension, for that higher up. There are now, however, several types of ladders on the market especially made to suit orchard conditions, that are becoming increasingly popular with fruit men every year.



Two Types of Picking Ladders

The three-legged step-ladder, with the flaring base, is a great improvement over the old type. The single movable leg is more easily thrust in a low-hanging tree than the two legs of the other, and the flaring base gives great stability.

The long ladder shown in the same illustration is the upper half of an extension ladder. Such a ladder, if single-length, should have a flaring base. The upper part of the ladder, which is brought to a point, is a great advance over the old open end type. It can more easily be thrust into the upper branches to a good position because of the point, with the result that much less fruit is knocked off and bruised. A flaring base on a ladder gives great stability, enabling the picker to use both hands, and lessening the liability to upsets, with the danger of serious fall and the certainty of bruised fruit.

The other illustration shows a ladder mounted on wheels. This is a new type, but has been used in several large orchards and proved to be very serviceable, particularly on low headed trees where the fruit is on the outside light branches. The ladder is not supported by the tree, consequently no fruit is knocked off and no branches are broken. The wide base gives great security to the picker. This type of ladder is on the market, but can be made at home quite easily. The ladder and braces supporting it should be bolted to the frame, so that it can be taken apart for storage in the winter.—R. L. Scharring-Hausen, N. J.

GREENHOUSE DISEASES

Breeding Resistant Varieties More Effective in Control Than Soil Treatment.

Greenhouse soil annually renewed produced the smallest loss from disease in head lettuce in tests made at the Ohio Experiment Station. Sterilization of the soil with formalin checked disease ravages, but differences were not marked in any case.

Twelve percent of the plants have been diseased in the ordinary soil of the greenhouse in the last five years. The loss has been about five percent on the plot receiving new compost soil every year, and seven percent where the soil has been given a formalin drench annually. Steam sterilization has been of little value in preventing loss from disease. Mixing sand into the heavy clay soil has reduced loss, but a sand cover over the plot has aggravated disease conditions.

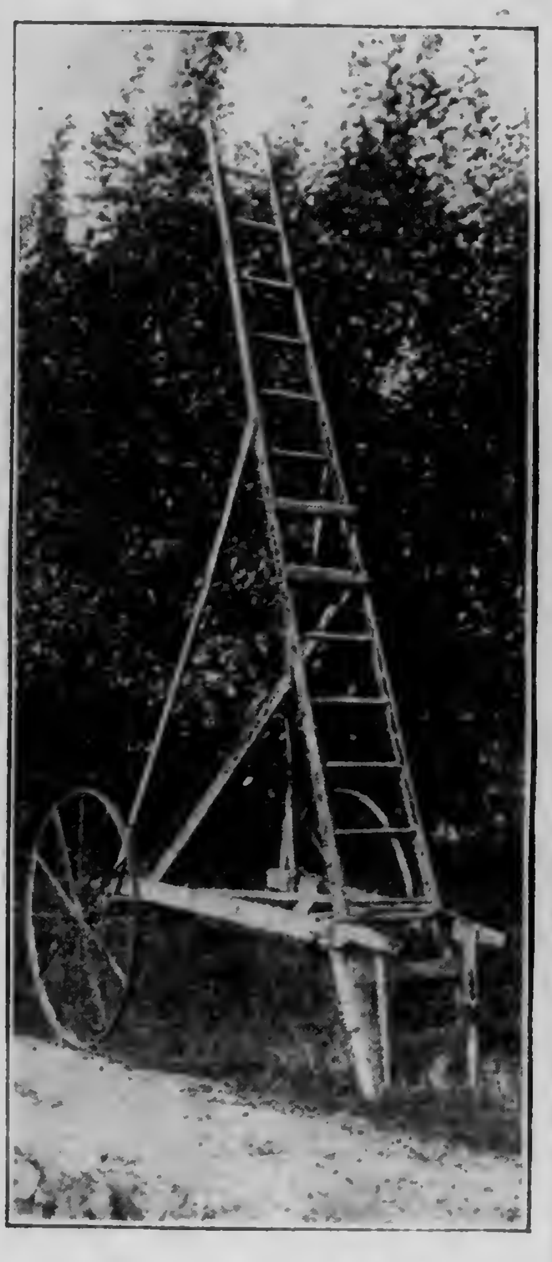
Greater progress can be made in disease control with head lettuce by plant selection than by soil treatment, in the opinion of horticulturists at the Experiment Station. By selecting plants resistant to disease a type can be obtained that will insure profitable crops every year. Some varieties at the Experiment Station have shown less than four percent loss from disease.

FINDS MOTOR TRUCK PROFITABLE

My neighbor, Charles T. Lages, lauds the one-ton truck which he bought last spring and says it brought him in many extra dollars.

For years his fruit and vegetables had been hauled to commission houses and other markets in a big wagon drawn by two good horses. The smooth city streets on wet days were a menace to the horses, and the driver was likely to have some thrilling experiences from this condition and the autocratic drivers of various motor vehicles who believed in the "divine right" of the new invention.

Then the trip was begun about eight o'clock in the morning. The load was always heavy and it was a tedious, slow ride until the ten miles were covered. Home again at three, four or five o'clock in the afternoon. Feed for the horses was taken along and fifty cents paid for stabling them.



Handy Ladder on Wheels

Things are now somewhat different. The peach orchard of over two hundred trees—an orchard that did wonders this year—came into bearing. The motor truck was loaded to its capacity. The man was home from his first city trip by 7.30 a. m. He helped the other pickers and was soon off with another load, and then a third was made on this same day.

About 285 half-bushel baskets of peaches had been sold in one day, whereas the wagon could have made but one trip and hauled about 60 baskets. Tomatoes gave a tremendous yield. Frost threatened. Three trips a day were made from the field, for the tomatoes were neither culled nor wiped, and the price paid was from $1.50 to $1.85 a half-bushel basket. One hundred baskets of green ones brought 40 cents each.

This is but a small part of Mr. Lages' argument in favor of a motor-truck for farmers.—E. O. Jean, Md.

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Why shouldn't your home be just as comfortable and have the convenience of running water, the same as the city family? No reason at all, when the

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will give this great convenience at low cost and little trouble of installation. Our system will suit your every need. Hand or power systems for shallow or deep water or artesian wells.

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'We beat the world' on good mill ends. Slate coated (heavier than 3-ply), needs no painting; fire retardent (color red or greyish green). $1.68 for 100 sq. ft.; slate coat mill ends shingle. (color red or green), $3.48 square; rubber roofing, 3-plys $1.35 sq.; 2-ply, 98c sq.; 1-ply, 78c sq.; inc. nails and cement. SAVE 50 per cent. Fresh car load. Mail check with order today.

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121 W. Third St., Cincinnati, Ohio.

Tenant Wanted for a farm of 97 acres in Northampton County, Pa. Will be rented either for cash rental or on shares. Farm has been used for the last six years for Dairying and Stock Farming, and is in excellent state of cultivation, with buildings in good repair. Farm contains peach orchard of 1,000 trees. Party with good references on taking lease may have work animals, implements and tools with farm. Poor health of owner only reason for renting. All particulars on application to
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55 John Street, New York City.

A Small California Farm earns more money with less work. Raise the crops you know about—alfalfa, wheat, barley, etc.—also oranges, grapes, olives and figs. Ideal for dairying, pigs and chickens. No cold weather; rich soil; low prices; easy terms; good roads; schools and churches. Enjoy life here. Newcomers welcome. Write for our San Joaquin Valley, also Dairying and Poultry Raising Illustrated folders, free. C. L. Seagraves, Industrial Commissioner, Santa Fe Ry., 1957 Ry. Exch., Chicago.

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(men and women) this month, taking orders for trees & shrubbery for spring delivery and offer special inducements for quick action. Pay weekly. Write for outfit.

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Handle Water By Machinery

Figure the total cost of the labor-saving machinery you use in seeding and harvesting. It is money well spent, though you use this machinery only a few weeks in the year. Yet you still lug water by hand just as your grandfather did. Cut out this hard work and waste of time. Put in a water system and handle water BY MACHINERY. The

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works every day of the year and supplies tons of water "Direct from the Well" for cooking, scrubbing, washing—for watering the stock, for the bathroom and the dairy. It pays for itself in a year or two.

You can have hot and cold, hard and soft water anywhere you want it. Just turn a faucet. No pumping and carrying. No stale stored water and NOTHING TO FREEZE.

The MILWAUKEE PUMPS are remarkably simple and the whole system is as reliable as any other farm machinery. It is the best investment you can make.

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Our illustrated catalog gives a lot of information. It tells how to take off and care for hides; how and when we pay the freight both ways; about **our safe dyeing process** on cow and horse hide, calf and other skins; about the fur goods and game trophies we sell, taxidermy, etc.

Then we have recently got out another we call **our Fashion book**, wholly devoted to fashion plates of muffs, neckwear and other fine fur garments, with prices; also **fur garments remodeled and repaired.**

You can have either book by sending your correct address naming which, or both books if you need both. Address

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Don't Drive Home an Empty Wagon

One farmer wrote us in July: "Our farmers have been told they will have to do without fertilizers because of scarcity,—*but we are not going to do without,* and I want your prices."

He didn't propose to drive home an empty wagon.

To ensure a supply of plant food for the farmers in the war emergency, the whole fertilizer industry has been and is now using every resource.

There is a shortage of freight cars in which to move phosphate rock from the South as well as fertilizers to the farmers; a shortage of ships to bring nitrate of soda from Chile; a shortage of burlap for bags; a shortage of ships to bring Spanish pyrites for manufacturing sulphuric acid. The Fertilizer Associations comprising 95% of the manufacturers of the country, maintain headquarters at Washington, co-operating with the Government to solve the problems confronting the industry that supplies the plant food which produces the country's foodstuffs.

To name all the manufacturers who have rendered service to the Government in this splendid spirit would be to print a directory of the trade.

The fertilizer situation changes daily in some detail or other. Farmers therefore should keep in touch with our nearest local agents, and order their fertilizers early. It is likely to be a long time before the price of any fertilizer or other commodity will come down.

Order now to ensure delivery. Don't drive home an empty wagon.

If we have no agent in your town, we want one. Write us for agent's name or ask for an agency yourself. It is paying 50,000 others. Why not you?

READ THIS BOOK

HOW TO MAKE MONEY WITH FERTILIZERS

No matter how many other books about fertilizer you have read, *read this one.* It is a new and different book. There isn't any advice in it for one thing. Probably you have about all the advice you need already. This is just a common sense book. You will read it and say: "That's so! Why haven't I thought of that before." If you are using fertilizers you are probably making money with them, but *are you making enough?* How do you *know?* By making little changes here and there, as you sometimes shift your farm labor and teams, perhaps you can make more. This book may help you. It costs nothing.

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PHILADELPHIA, PA., DECEMBER 15, 1917.

Potato Association

The Pennsylvania Potato Growers' Association, formed last week, has wonderful possibilities before it. There is scarcely a crop grown in this section on which the growers can co-operate to better advantage. The difficulties of securing good seed, the provision of insecticides, especially during the war, and the advantages to all of better quality and grading of the state's crop are only a few of the details that can be greatly helped by co-operative action in a strong state organization. These are but a few of the things that the newly organized association has set out to do. It needs and deserves the support of many county and local associations. The state body wisely made provision for the affiliation of county bodies, and the next step should be for the leading potato counties at least to organize as county units. The state body is officered by farmers and its work will be conducted by farmers for the mutual benefit of all potato growers of the state. Watch it grow.

* * *

Prices and Production

The article on page three of this issue criticises us for failure to justly represent the farmers in the matter of crop prices and crop production. We are glad to publish this criticism just as we are always glad to receive the criticism of any reader who is genuinely and understandingly interested in the farmer and his problems. We make no apology for the particular articles criticised. They were written by men who are just as patriotic and just as sincerely desirous of helping the farmer and the country as any other men. We make no apology for our own past utterances. Every one has been made with the most earnest effort to advance the interests of the farmers of this country; first because we are farmers at heart as well as in personal interest and feel that the welfare of the farmer is the ultimate welfare of the country, and secondly, because the greatest possible development of farming is essential to the winning of the war. But we welcome criticism, knowing that the best thought in farming is necessary to attaining that greatest possible development. It is time for serious thought, and time for plain talk.

There are bigger problems before the American farmer today than ever before. The factors touched upon by Mr. Dean are all vital to the success of the farmers as business men and producers; and they are all vital to the successful prosecution of the war. It is right that farmers weigh the full effects of the economic conditions permitted, or the regulations enforced, by state and federal governments. It is just and patriotic that the farmers request, and if necessary demand, the consideration from those governmental agencies that shall put farming on a basis of equality with any and every other essential industry. These things have always been needed, and they are needed more now than ever before. But now, more than ever before, such demands must be made with a full appreciation of the problems before us and tempered with the willingness to make equal sacrifices with others.

We believe that, as the source of all food and clothing, farming should receive first consideration in preparing our nation and our allies with the materials for a long and bitter struggle. We believe that before we have progressed very far in this war the necessity of such a policy will be fully appreciated here just as it has come to be appreciated in those countries that have been long in the war. As that time approaches, the farmers must be preparing to assert their full needs in the readjustment; and they must be as ready to do their full duty under it. We must fight against inequalities that give undue advantage to special classes. And we must be as willing to forego the opportunity to exact undue advantages and privileges. "Cold cash" purchases production now, but the spirit of exacting "cold cash" beyond the amount necessary to bring out maximum production will defeat us in this war.

Read "The Job Before Us", on this page. It gives facts that are not as well known as they should be or as they will be before the next season rolls around. The job calls to all of us and the first duty is our best contribution to the defence of our country, whether that be in personal service, in money or in the products of our labor.

* * *

The Job Before Us

Congress is again in session. It has before it a bigger task than has confronted any other Congress in the history of our country; bigger because the lives and destinies of more people are involved, more billions of dollars are required, and co-operation with many other nations is required as never before. The President in his message to that body left no doubt as to the course to be pursued. He took for granted the determination of the American people to see the undertaking thru to a successful end, and also their willingness to make every sacrifice necessary for that purpose. Did he misjudge his people? The next few months will tell. The chief significance of his address is the appeal it will undoubtedly make to that large part of our people who are not yet awakened to the immensity of the task before us. Congress has its job marked out. It remains to be seen how well the professional politicians can forget partisanship, and how much capacity they have as statesmen.

Admitting that an unexpected something might happen to bring the war to a sudden termination, the situation as it exists today has nothing in it to warrant the care-free optimism which exists in too many quarters. The careless reading of the newspapers in which there is, unfortunately, a tendency to exaggerate details and minor successes while minimizing failures and the size of the job, has tended to develop a cock-sure feeling in too many Americans. We need in this country some plain speaking of the kind Premier Lloyd George gave to the English a few days ago and which awoke in the public mind a realization of actual needs and conditions such as nothing had done before. The blunt fact is that, so far, Germany has been winning the war.

We are not alarmists. Neither have we any doubt as to the final result, but it can do no good to shut our eyes to the facts as they exist. On the other hand, infinite harm may result and the destructive conflict be prolonged by our failure to fully understand and our slowness to act. Let us examine the facts as developed since August, 1914.

Germany has by conquest and otherwise added to her resources the riches from 300,000 square miles of territory. This area is comprised of Montenegro, Albania, Serbia, Roumania, Bulgaria, some Russian provinces, Belgium and northern France. In this territory she has made vassals of 42,000,000 people who are required to labor as directed. Because of the rapidity with which she struck, Germany was enabled to take possession of vast amounts of war material; cannons, munitions, wagons, locomotives and thousands of miles of railways, representing billions of dollars. The Belgium railway system alone is worth $58,000,000. Add to these the foodstuffs and animals, the raw materials, coal, iron ore, copper, zinc, tin, lead and the textile fabrics and we have a suggestion of the billions of dollars' worth which Germany has added to her riches since the war began. On the other hand, the allies have appropriated nothing. Their disadvantage is in the fact that any territory they retake is a barren waste, the Germans having appropriated or destroyed absolutely everything of value. It is said that in northern France alone $11,000,000 worth of plunder was taken.

To all this must be added the war imposts, or the sums they have levied upon conquered peoples. Regardless of their being crushing burdens, millions of dollars have been thus exacted. According to pre-war statistics, national fortunes of these invaded countries totalled 30 billions of dollars. Owing to her system of floating her enforced loan bonds within the Pan-German countries she has already raised $54,000,000,000 and also gained control of the undeveloped agricultural and mineral wealth of the Balkans and the Ottoman Empire.

As to Germany's food supply it must be understood that she set about the development and planting of the rich agricultural districts of the conquered territory at the earliest possible moment. Experts and thousands of implements were at once set to work. Public roads and railways are being constructed or improved wherever needed.

Not only has Germany gained immensely in money and materials since the beginning of the war by her merciless, rapid strokes, but she has gained in man-power as well. In 1914, 68 million people were dominated by Prussian militarism. Since then it has been extended to include 176 millions, thus creating what is called Pan-Germany.

That our government is aware of the Herculean task ahead is shown by the immense scale of the preparation being made, and by the fabulous sums of money asked by Congress. Secretary McAdoo has estimated that, including possible loans to the Allies, the cost of the war to our people will be about 36 billions of dollars for the two years ending June, 1919.

This article is written in the belief that when once the people realize the present situation and what it will take on their part to win the war and thus "make the world safe for democracy", they will cast off any inertia, or selfishness, or feelings of smug security that may exist and respond unitedly. For it must be realized that only as money and goods are backed by a people possessing a united and determined will to succeed can success be attained in the conflict with a foe which has shown itself to be without mercy and without honor.

* * *

Milk Producers

The Inter-State Milk Producers' Association concluded a most successful first year with its annual meeting held last week. The record of the first year is briefly told in the address of the president, published on page eight of this issue. The real progress made was told even more effectively by the spirit of the delegates and assembled members at that meeting. There was a unity of interest and a harmony of co-operative spirit that speaks well for the future of the organization and speaks volumes for the efficiency of the officers. The fact that the old directors were re-elected and the old staff of officers was retained for another year without break is sufficient evidence of the work done. A feature of the work of this Association that is most worthy of notice is the manner in which it has accomplished its results. It has carried its membership along and secured for it all of the advantages of gradual increases in milk prices and more favorable working basis with all milk dealers without any evidence of friction. It has not attempted the impossible, but has accomplished practically all that other similar bodies have accomplished. It has made its position secure before seeking an advance, and has secured its ends without friction and without having to resort to the force of numbers. These results have not come by chance alone. They are the evidence of good management.

HARRISBURG NOTES

Extra Session Talk.—Possibility that the national Congress may enact some prohibitory legislation looking to amendment of the Federal constitution which would require consent of the states to become effective has revived the talk heard last fall that the Governor might convene the legislature in special session. These reports have cropped up again since the Penrose people have come out for certain election reforms, not only to take the police and firemen out of politics in Philadelphia, but concerning the laws governing elections in the state at large, and also advocating some real reforms in the governmental methods at the State Capitol. It will be recalled that in 1906 the Republican leaders followed up the election of Berry by holding the special session and enacting the famous series of reform laws. It is just possible that the astute politicians about the Governor may get him to do the same thing so that the administration may "beat to it" the Penrose people. The Republican Organization leaders are getting ready to go before the people at next year's primary with a demand for numerous reforms and to make it an issue in the selection of a state ticket and legislative candidates in the May election. Under the law the Governor can convene the legislature in special session for specific objects which must be set forth in proclamation. The Penrose people have the organization of the two houses, but if the Governor should come out for reform they would have to enact the laws. Thus both sides would obtain a measure of credit. An extra session would mean probably half a million dollars expense. People close to the administration deny knowledge of intention to reconvene the legislature, but other people from various counties who have been here say that the subject is under discussion.

The Latest Venture.—The latest move in the State Bureau of Markets does not appear to meet with the support of certain people thruout the state. The bureau has listed some 135 items of live stock and produce for sale and will expand it as items are offered. The items are given numbers, no means being mentioned but the bureau will put intending buyers into touch with the owners.

The Draft Law.—Within a week or so the questionnaires of the government for the drafted men will be in the hands of the men within the age limits of the selective service law. Drafted men will be sent copies by mail and responses will be insisted upon. Under the law men not understanding the questions may go to public officers or lawyers. The next call under the draft will begin during the winter. The remainder of the men under the first call will probably be under arms by the middle of January. Those in six western counties have been called already.

Foreigners for Fields.—As a result of the declaration of war against Austria it has been suggested that men of foreign birth who are natives of countries not friendly be put to work in the fields. There are thousands of Austrians either in camps or under the draft who can be transferred to agriculture as many of them will not be wanted about steel works or railroads and to intern many of them would involve not only big outlay, but loss of productive labor.

The Mid-Winter Show.—In all probability efforts will be made to hold a mid-winter corn and dairy product show and if it goes thru it will be at the time of the State Board of Agriculture sessions.

Sheep List Next.—Plans are being worked out at the Capitol to compile a list of all sheep for sale. This will be undertaken as a means of extending the raising of sheep and it is believed that it will bring hundreds into the state.

Nursery Inspection.—State Zoologist J. G. Sanders says that as a result of the first few months of enforcement of the nursery inspection law that many of the large nursery men promptly gave their co-operation. The only trouble experienced was with small dealers in trees. Some of them had to prosecuted for refusal to clear out infected stock.

Sale By Weight.—James Sweeney, the state's chief of standards, is renewing his recommendotion that fowls and things which are now sold by count or dry measure should be sold by weight. He says that in many places chickens are sold by weight and that count should be abolished for sake of uniformity if nothing else. There is also a recommendation that meat that is wrapped should be sold by net weight which should be indicated on the wrapping.—Hamilton, Dec. 10.

NEW YORK LETTER

Public Markets Closed.—Most of the public markets in the small cities of the state have closed for the winter. With most of them this first year's trial of the municipal market system has been a very pronounced success for both farmers and city buyers—with buyers greatly in excess of the number of producers. It is hoped farmers may make more liberal plantings next year for this trade.

No Canal Barges.—With the new barge canal complete to Oswego and to Buffalo within the year there are no barges ready to use, or even ordered. No standard for the type has yet been adopted. The mayors of the state will meet the State Council of Defense December 10 to apply for 24 barges and their operation is admitted to be highly profitable and necessary under transportation conditions. Yet, ship builders are rushed to the limit and it is to be seen whether state officials can secure the barges elsewhere.

Branch of Dairymen's League to Be Made Example.—The Watertown Branch of the Dairymen's League created excitement this week by refusing to sell its milk at the reduced December prices, according to the agreement made by the League and the Federal Food Administration. They demand $3,50 per cwt for their milk for that month. The administration may order the licensed milk dealers of New York City to refuse to buy this milk. The League will attempt a compromise when it convenes at Utica. The majority of branches feel that way but have hesitated before taking so drastic an action, hoping the new commission may finally give them a fair deal. Of this, J. J. Dillon, State Commissioner of Foods and Markets and the milk producers' fearless champion, is doubtful, as he told the League convention that they had not had a fair deal at Washington, while all know of the injustice from state and city authorities.

Board Indorses Many Loans.—The Auburn branch of the Federal Land Bank has had its requests for $100,000 in loans to the farmers indorsed by the loan committee. This branch has grown so that it may soon be divided into two.

Successful Hunting Season.—For the first time only one accident and no fatalities are reported as the result of the deer season in the Adirondacks. Over 22,000 sportsmen engaged in the hunt this fall, killing 3,470 deer.

Granges in Session.—About 50 county granges, representing thousands of granges of the state, are electing officers this week and considering farm problems. Chief of these are price conditions, the draft, the new school system, and plans for next year's work. The consensus of opinion is that the work of the Food Administration is taking away all hope of the farmer for a profit and causing him to decrease his output by one-half for next year—and that the draft has also operated most relentlessly toward this result. The new school system is receiving a great deal of adverse criticism, with many demands for repeal.

Recent Milk News.—The chief events of the week are the Dairymen's League's annual business meeting at Utica and the two days' hearing following it when the new Federal Milk Commission takes evidence as to the cost of milk production. At the League meeting, the 1,000 delegates in attendance voted in favor of a nonpartisan party to look after agricultural interests, as a rebuke to the Legislature and the Governor for recent failures to give farmers a fair show. The League is becoming a force politically and the farmers begin to look to it to defend them from unjust legislation. An appropriation of $5,000 was made to maintain a representative to help in food regulation at Washington. The capital stock was increased from $100,000 to $500,000. A growth of 19,438 members during the year was reported, making a total membership of 48,000, with 561,091 cows represented. Prof. Rider, of Syracuse University, and a few leading farmers will give figures at the milk hearing on the increase in the cost of feeds since 1195. The directors of the League have been working for the purchase of all Borden shipping plants and hope to know definitely this week whether or not the company will sell.—F

NEW JERSEY FARM NOTES

Conscripts for Farms.—In a letter to Secretary of War Baker Governor Edge, of New Jersey, has renewed his suggestion of last September that drafted men who are waiting to be called to the colors at Camp Dix, in this state, and men in similar situations in other commonwealths be used for agricultural work where it is possible. He is making the suggestion now in ample time for arrangements to carry it out when the next planting season begins, which, in New Jersey, is from about March 20 to June 1. The idea was broached before when the harvesting time was on and the dearth of farm labor was seriously menacing the gathering of the crops. He says there are three things necessary to win the war—men, money and food. For the first two problems the United States government has apparently reached the solution, but for the third the answer to the labor shortage puzzle has not yet been found. The Governor believes that drafted men could be recognized as soldiers engaged in agricultural work for the government, just as engineers building bridges for the government or men driving ambulances.

State Horticultural Meeting.—One of the finest displays of fruit and vegetables ever presented in New Jersey is the report from the annual meeting and exhibit of the New Jersey State Horticultural Society, which was held the first three days of the past week at Newark. Speakers of wide reputation and experience were on the program to discuss subjects of interest not only to the fruit grower and the vegetable gardener, but to all persons interested in rural life.

N. J. State Grange.—The need of farm labor was one of the predominating notes at the annual meeting of the State Grange of New Jersey, held at Atlantic City. Governor Edge explained his plans for the development of agriculture in this state, saying that $40,000 would be asked for the work at this next session of the Legislature. He also explained to the grangers his plans to use drafted men on the farms. United States Senator Joseph H. Frelinghuysen came from Washington to address the sessions and spoke on the reasons for the present war into which America has entered. State Senator G. W. F. Gaunt, Master of the State Grange, was unable to be present, but a paper written by him was read in which the Federal Government was attacked for not providing a board to direct war—agricultural activities, just as other war plans are being supervised. Mr. Gaunt is still confined to his home by illness. Plans were launched by the granger delegates, representing 18,000 farmers of the state, to further the government's thrift campaign. In this connection, Dwight W. Morrow, of Bergen County, a member of the Morgan banking firm of New York, who is directing the Jersey campaign, addressed the delegates in session on the Steel Pier.

A resolution was passed by the grange demanding that the Federal Government immediately recognize the peril facing the farmer by reason of the labor famine and the alleged failure to provide regulatory boards to insure ample supplies of nitrate and other necessities in the production of crops. It was urged that "soldiers of the farm" be permitted to take examinations from time to time for commissions similar to those in the fighting ranks, and in the winter lulls be sent to the army training camps to continue their military education.—L.

PENNSYLVANA FARMERS' INSTITUTES

First Section.—Perry County, Liverpool, Dec. 17-18; Ickesburg, Dec. 19-20. Speakers, Wm. M. Patton, F. H. Fassett and Mrs. Eugenia Benn.

Second Section.—Fayette County, Farmington, Dec. 17-18; Hopewell, Dec. 19-20; Dunbar, Dec. 21-22. Speakers, J. Stuart Groupe, E. L. Phillips, J. A. Boak and Geo. H. Rea.

Third Section.—Allegheny County, Millerstown, Dec. 17-18; Clinton, Dec. 19-20; Wildwood, Dec. 21-22. Speakers, Sheldon W. Funk, H. K. Phipps and C. M. Barnitz.

Fourth Section.—Warren County, Lottsville, Dec. 17-18; McKean County, Farmers Valley, Dec. 19; Turtle Point, Dec. 20-21; Ceres, Dec. 22. Speakers, J. T. Campbell, Prof. Franklin Menges and Jos. O. Thomas.

Fifth Section.—Lehigh County, Zionsville, Dec. 17-18; Allentown, Dec. 19-20; Egypt, Dec. 21-22. Speakers, D. H. Watts, Theo W. Wittman and J. A. Shuey.

AGRICULTURAL WEEK AT TRENTON

The largest and most important meeting of the New Jersey farmers ever held is being arranged by the State Department of Agriculture to be held at Trenton, Jan. 22 to 25. A program of special interest is being arranged for dairymen, poultrymen, hog raisers, potato growers, orchardists, beekeepers, general farmers and housewives. The Trenton Armory will be filled with exhibits, space having been taken by state associations representing practically every branch of farming. Full programs will be available later.

FARM MEETING CALENDAR

Palace Poultry Show, New York City, December 11-15.

Maryland Agricultural Societies, Baltimore, Md., December 18-21.

Pennsylvania Farmers' Week, State College, Pa., December 26-29.

Madison Square Poultry Show, New York City, December 28-January 2.

Delaware Corn Growers' Association, Middletown, Del., January 2-4.

New York State Breeders' Association, Syracuse, January 8-10.

New York State Fruit Growers' Association, Rochester, January 9-11.

New Jersey Corn Show, Trenton, January 23-25.

Agricultural Week, Trenton, N. J., Jan. 22-25.

New York State Grange, Syracuse, N. Y., Feb. 5-8.

New York Farmers' Week, Ithaca, N. Y., Feb. 11-16.

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Inter-State Milk Producers

Annual Meeting---National Milk Situation

The annual meeting of the stockholders of the Inter-State Milk Producers' Association was held at Philadelphia, Dec. 3. The morning session was devoted to Association business, with about 200 members present. The election of five directors resulted in the re-election of F. P. Willets, Delaware Co., Pa.; H. D. Allebach, Montgomery Co., Pa.; J. M. Showalter, Chester Co., Pa.; Ira Book, Lancaster Co., Pa., and J. J. Light, Lebanon Co., Pa. In the reorganization of the Board the Association officers were re-elected as follows: President, F. P. Willets; vice president, H. D. Allebach; treasurer, Walter Kirby, Burlington Co., N. J.; secretary, Robert W. Balderston, Chester Co., Pa.. The president, vice president and Messrs. Fred Shangle, Mercer Co., N. J., J. J. Light, and J. M. Showalter make up the new Executive Committee. Reports of officers showed the Association in good condition with very material gains in membership and territory. The report of the auditing committee showed a balance in the treasury of $4,960.95.

President's Address

Something over 200 dairymen were gathered at the open afternoon session to hear President Willets' address and the discussion of the national situation in dairy production by Milo D. Campbell, president of the National Milk Producers' Federation. President Willets spoke as follows:

This report dates from December 11, 1916, when 15 county delegates took active charge of the Inter-State Milk Producers' Association. The next three months were spent in arranging for a safe, workable basis for incorporation of the Association. This was consummated on March 14th, the charter being granted by the state of Delaware. By its terms, the affairs of the Association are vested in a Board of 15 or more directors, one-third elected at each annual meeting. You have this morning elected five new directors. The new Board has met and organized for the year and we urge that the new Board may have the active support of every member. This means work to get more members, to get fuller co-operation in feed buying, in control of production and particularly in selling our product.

The Executive Committee has had many concrete examples of the results of united effort. All of the 75 men at one station stood firm, held their milk and secured the Association price when it had previously been refused them. Many smaller dealers have had to learn that the Association means to secure this full price for all its members. Whatever has or has not been accomplished the price was never paid over the whole Philadelphia territory before or by every dealer therein.

Our growth of membership has been commensurate with the time that could be expended. Increasing care has been given to the full explanation of our aims and our methods. We have been anxious never to get members under false promises, as desirable as it is to have all our farmers join. Our members live in 21 counties of Pennsylvania, Maryland, Delaware and New Jersey, all the markets of which are directly influenced by Philadelphia. We have no desire to spread beyond such limits, having joined the National Federation of Milk Producers in order to affiliate ourselves with the producers' interests in other large centers. We have been able to adjust the wholesale price in all the cities and towns within our limits, whenever our co-operation has been sought.

Price Increase

The first test of our strength came July 1st, when we assumed active charge of the sale of milk of our members. We secured a substantial advance over the previous price. There was a further advance one month ago. We are fully aware that the November price is not enough for December, but we have been unable to boost the price higher on account of local conditions. But we can assure you that there will be a substantial raise for the following two months, unless something unforseen takes place. We have fixed a price, but think it best not to make it public now. The price is the first thing that we consider, but it is not all. It is very important, whatever price is set, that it be secured for everyone and that it be just and equitable to all.

F. P. Willets, Pres. Inter-State Milk Producers' Association

Association Tester

The question of test has caused much dissatisfaction. Hereafter all prices will be quoted by the Association for three percent milk with allowances above that for butterfat. This winter, untested milk f.o.b. Philadelphia may approximate the four percent price, but that is because no test milk in winter on the Philadelphia market will average this test. In some other districts all milk is now sold on the 3.6 percent basis, for that is agreed upon as the average test for that section.

Our tester has discovered some instances where both producer and distributor have taken advantage of the opportunity to sell milk and to dishonestly buy it without test, and this in itself is sufficient justification for us to insist on selling our product for just what it is worth, be it three, four or five percent milk. The present variation is so arranged that the low test milk returns an extra premium for the butterfat alone, the butterfat in three percent milk being the highest priced fat at the present time. The reason for this is apparent. Whole milk and condensed milk furnish a market for the other valuable solids in milk that gives us our present market—80 percent above butter prices. The cream buyers compete for our milk by marketing their skim milk as condensed milk, Italian cheese, etc.

The Association tester is recognized as a careful, competent operator and has the confidence of all wherever he has gone.

Association Headquarters

The office of the Association has been opened since July 1st, and while its possibilities for service are hardly appreciated yet, the amount of work to be done there has been beyond our expectation. Greater and more far-reaching results can be obtained thru the active support of all members and a substantial increase in our membership.

Commissions

The commission due the Association is now coming in fairly regularly thru the co-operation of most dealers. This has not been easily obtained and there are many who cannot yet have their commission deducted in this way. All these are urged to forward it direct to the office until such times as we can get that particular distributor or manufacturer lined up. Some ship to very small dealers or sell in small towns and these can always find it easier to pay it personally. The Association must have the active support of all, and this means financial support as well as enthusiasm. All share in the benefits and benefits are, from now on, limited by the monthly income for commissions. The expenses for holding meetings, for testing, for traveling and for office services in general are mounting every day, but we have no other means of increasing our revenue and the basis of calculating it remains stationary. A fund for contingencies is imperative and this we cannot accumulate without regular receipt of all commissions.

Aims and Purposes

We want to deal justly with all, to favor no one and discriminate against no one. We have endeavored to make milk dealers realize that we want to treat all alike, both large and small, and to be perfectly just in all our demands. It has required a number of positive instances to demonstrate to some of them that we are in a position to secure the same treatment from them, and there are many hard-earned dollars in the pockets of our members as a result.

I wish to thank all the members for their loyal co-operation and enthusiastic support and to ask all to endeavor to get a little fresh glimpse of the possibilities for the future and then to put shoulder to the wheel and make 1918 that much more of a success. With all we must not forget that our product is the only food for many of the babies of our great city; and our responsibility for their life and health must be appreciated by all. This means pride in our business. Then we must insist on being paid for carefulness and must encourage the use of milk by improving the quality of our product. We must be able to go before the public with the justice of our position and must not hesitate to make this clear.

The Dairy and the War

Organization to Meet Changing Conditions

By MILO D. CAMPBELL, Pres. National Milk Producers' Federation

Following is the address of Mr. Campbell given before the annual meeting of the Inter-State Milk Producers' Association. We publish it in full believing that it should be read by all dairymen and all farmers.

While I am speaking to men who have met to consider the industrial needs of their particular vocation, I am sure that I make no mistake when I address you first as American citizens, ready to fight with treasure and life to preserve the Nation that was given birth upon the sacred soil of this city.

Three years ago an alarm of war came across the sea, with little more than friendly concern to us. The next year we read with deep interest this foreign news. Another year and our conscience began to trouble us, for we saw our struggling brothers, sons of men who had crossed this same sea 140 years before to save us, now fighting with their lives for the same principles they had helped us to give to the world. And yet, we were but wishing them "God Speed". But today we know and so do they, that America is not without memory, not without gratitude, nor lacking in patriotism. Unnumbered thousands of our boys are already "over there," with millions in readiness when the call shall come. And today, the man, the organization, the industry, the church that does not attune its activity first to this great duty of National preservation is unworthy of a home beneath our flag.

The one great call of this war is "Team Work". The Allies are organized into a single fighting unit. Thirty-eight of our railroads were ordered to forget the Sherman Anti-trust Law, to organize into a unit. Their business today is in the hands of seven men, with the Government standing over them with the brake lever in its own hand. The hundreds of condensaries of milk are combined into one association and with this association the U. S. Government deals and buys its milk for the army. Everywhere organized Government is dealing with organized industry.

But outside, among the producers of wealth, the producers of food, we find yet in this country a spirit of Feudalism that would continue to hold 30,000,000 of our people vassals to the Lords over them.

Organizing Dairymen

Until two or three years ago, the six millions of milk producers, whose families number between 30 and 40 millions of our population, knew little of organization, and less about the cost of producing milk. They had been keeping cows, because one-half the milk produced was used by the farmers and their families; because the other half was produced by "doing the chores" before six in the morning and after supper at night; by children and hired men working overtime and cared for by the good housewife whose labor was not considered a thing of commercial value. The best food that the world yet knows was produced by the most enslaving drudgery of the farm, and for a price that would have sent the farmer to the Poor House had it not been for these uncounted services.

The world has but recently learned that want of milk will decimate the population of the earth more rapidly than will the world war. The dairy cow is the foster mother of the human family, and if in a year or five years she should become so far extinct that the children of the world could not be fed properly by her, unnumbered generations to come would have to pay the penalty.

Food Value of Milk

For years we have known the analysis of milk, its butterfat, its protein, carbohydrates, etc. But not until recently have we learned that no chemist has ever been able to put these compounds together from any other source and give to them the life-giving, body-growing, health-preserving qualities of milk.

We now know that without milk our children will not develop healthy bodies, that their growth will be stunted, their flesh and muscles will be flabby, they will be tuberculously inclined, unable to resist disease, and with tendency to failing eyesight, weak hearts, flattened feet and rheumatics. We may benefit by changing our own laws, but every attempt to change the laws of Nature has proven an abortion.

Organization Lessons

As a nation we are going to learn some important things from this war. Thirty years ago, when the anti-trust laws had their origin, we all believed that combinations of capital would prove to be the downfall of the nation unless prevented. The magic talisman "Regulation" had not yet been discovered. But for the last ten years we had not heard of anti-trust laws, until they were wheeled out a few weeks ago and used for intimidation or other un-American purpose upon Milk Producers' Associations in various parts of the country.

By the Clayton Act, and by the Food Administration laws, farmers and farmers' organizations without capital stock, and operated not for profit, were particularly exempted. No congressman or legislator ever dreamed that ambitious politicians would undertake to distort the law to make it apply to farmers, who in the most open and harmless way were associating for mutual and co-operative benefit.

Six millions of farmers could not form a trust if they would. Their properties are separate and distinct, and must continue to be. Not until the socialist has destroyed the private ownership of their homes and farms will there be any danger of an agragarian or farm trust. Right now the wisdom and beneficence of democracy for which more than half the world is fighting, will best be conserved by National Unity. But National Unity cannot be preserved or attained by gross discrimination against the agricultural classes of this country.

A Delayed Government Report

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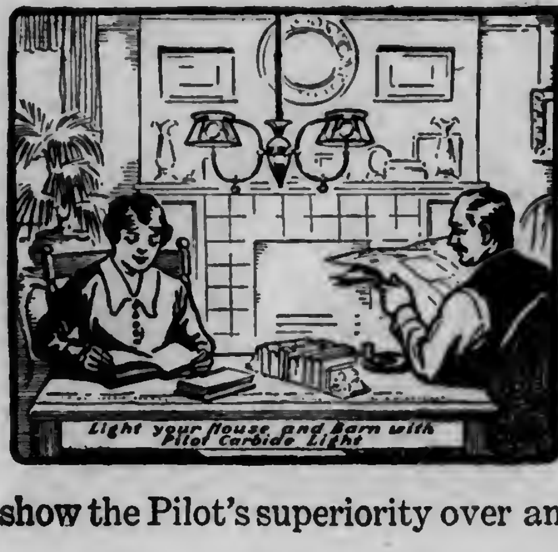
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Last year alone upwards of *six-thousand* new purchasers of silos unanimously decided in favor of the Kalamazoo. And those who bought twenty or more years ago still swear by the Kalamazoo because time and experience have proven conclusively that Kalamazoo silos are *right*, from every standpoint. There's a big dollar's worth of *value* in every dollar of the cost whether you buy a glazed tile or a wood stave Kalamazoo.

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Send for our price list today. Let us prove to you that we pay HIGHEST PRICES. We pay exactly what we quote and know you will be pleased with our LIBERAL GRADING.

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A house you can depend upon. We make no deductions of any kind, give every shipment individual consideration regardless of how small or large. On account of our unusual outlet for furs, we can actually pay you more money. Write for price list.

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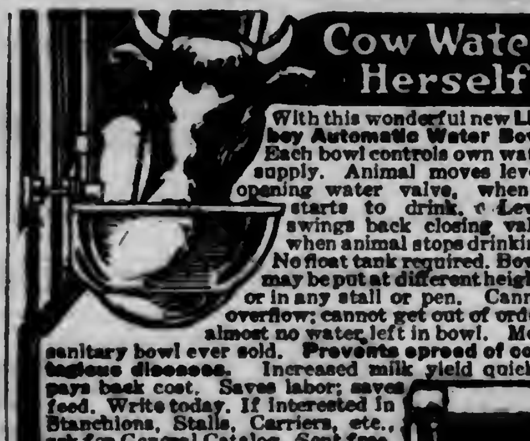

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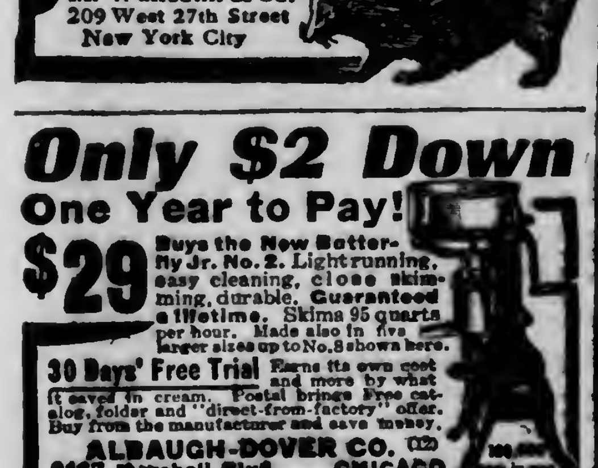

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A MILKER THAT MILKS WITHOUT STRIPPING
Guaranteed and sold at a reasonable price.
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PIPE second hand. Large stock all sizes furnished with new threads & couplings. Prompt shipments. J. F. Griffith, 410 Moyer St., Phila.

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The old reliable and most popular medium-priced square Horse Blanket. Exceedingly warm and strong. Wears years and years. Very large and heavy—84 inches by 90 inches. Beware of imitations. Sold by the factory direct to your dealer.

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Makers of a Superior Line of 5A Motor Robes

ther he wear a dress suit or overalls, who wants to make an inordinate profit through the calamities of this war is deserving of little better fate than the Hun who is shooting at our boys from the other side of the trenches.

Four months ago representatives of the milk producers' associations of the country met at Washington, at the request of the Food Administration, and there offered the surplus milk of the country, beyond the farmers' own consumption, at prices sufficient to cover cost of production plus such reasonable profit as the Food Administration should find proper. At the request of the Food Administration, data bearing upon such cost was collected from every source possible.

Mr. Hoover appointed a disinterested committee of his own to examine and analyze this data. It was an eminent committee, and for weeks and months that committee has held its report while the whole country, consumers and producers, have been waiting. There is no fair man, whether he comes from the consuming class or from the producing, but is willing to accord the producer the actual cost of production plus a reasonable profit. We do not criticise the delay, for we do not know the cause; but we do know what has resulted. The great consuming public has been made to feel that the demand of the farmer for more pay has been unwarranted.

The true story has never reached the consumer. He only knows that of all the price advances made in food and clothing, that the milk producer is the one criminal who should be prosecuted! He does not know that while the price of his quart of milk has only advanced from 60 to 70 percent, the price of corn which was fed to produce that milk has advanced from 70 cents to $2.30 per bushel, or more than 200 percent advance. He does not know that the labor cost on the farm has doubled and every cost factor entering into milk production has increased from 100 to 200 percent.

But, as stated before, the war is to teach us some new lessons. Already $100,000,000,000 of property in this country is segregated into combines actual or understood. Some of these combines are in the form of mere Gentlemen's Agreements, where at periodical dinners prices and understandings are passed that become law. The farmer is too crude and has too little money for such elusive methods for evading the law. That takes high-priced lawyers.

A few attempts have been made to prosecute these great combines and we know the result. Standard oil was broken up and gasoline sent up. It went from seven cents a gallon to 23 cents. Railroads, tobacco and coal, beef, cotton and wool! Have you ever heard of one of these magnates spending a day in jail for violating anti-trust laws?

Organized Regulation

When enacted, those laws were the best that we could devise, but they have passed forever. A new era awaits the American people, that of regulation. Do you believe that the powers conferred upon coal and food administrators for the period "during the war" will ever be allowed to die afterward? If prices can be controlled by government in time of war, how shall we prevent a hungry or frenzied majority from demanding the same in time of peace? No man hates the doctrines of radical socialism more than I do, but we may as well prepare for a continuance of some of the methods that have been found necessary in war.

The great combines in business and commerce are more firmly established and more firmly fixed than is the constitution of our government. This does not mean that they will become the masters of their own destiny or of ours. It means that economies must come, that needless expenses must be eliminated, that labor must be treated fairly, and that profits must be reasonable. This being true, the farmers must organize or be lost in the shuffle. The truth has become an axiom that the farmer is the only salesman in the world who has nothing to say about the price of his product. His price is made by the middleman, and the farmer can take that price or allow his product to spoil on his hands.

But the farmers are going to organize. The milk producers of the country are forming associations and doing it everywhere. In the National Milk Producers' Federation, which is less than one year old, applications for membership are coming in faster than they can be acknowledged. We are not law breakers, we act wholly within the very letter of the law. We have a right to meet and talk over our problems, to consider cost of production, and under the federal laws of our land to say what we ought to receive for our product. Under some state enactments, the restrictions are more binding, but nowhere can farmers be prohibited from co-operative organization. Nowhere can they be prevented from placing their milk in the hands of an agent to contract and sell for them to the best advantage he can obtain.

Milk Commissions

Commissions are being appointed in various cities, upon which are representatives of producers, consumers and distributors. Hearings are being held to find the cost of production plus a reasonable profit. The first to report has been Detroit, which on Thanksgiving day reported that $3.35 per cwt. should be paid to farmers at their milk stations during the next four months, for milk testing 3.5 percent; that consumers, in order to give producers and distributors a fair price, should pay 14 cents per quart or eight cents per pint for delivered milk.

New York, Chicago and Boston are all conducting investigations, and without doubt when these are completed the results will have wide influence upon the price of milk in other parts of the country; and until conditions shall materially change.

Saving the Industry

The nation is confronted by some very serious problems in connection with the dairy business—problems that must not be overlooked. Had prices remained as they were one year ago, the dairy herds would have vanished like the dew. Neither patriotism nor altruism requires any man to run his business at a loss. The dairy cow is as necessary back of the trenches as is the soldier in the trenches. The dairy cow has been preserved to this nation and to the world by the organization of milk producers.

Not alone has this been a blessing to the world at large, but it has preserved to the farm the continued fertility that the cow alone can give

to the land. To milk producers it has brought millions of dollars in added price of milk. No milk producer ever invested a dollar in fees or in commissions to local or state associations that did not reward him richly for his investment.

But in every upbuilding movement there are always those who would enjoy all the privileges and benefits, who would occupy the front seats at the show, but who prefer to "let George do the work". There are others whose motto is "my way or no play", who are not yet fitted for democracy; men who are either Kaisers or quitters. But this great industry is fast organizing and getting ready to do its part in furnishing the world with the food that the Almighty wrote into the menu of every growing child and commended to every adult.

This industry inventories not less than one and a half billion dollars in cows, and as much more for buildings and equipment to care for them. The milk and milk products from these cows are worth at an average of $3 per cwt. for milk, the enormous sum of $2,640,000,000 annually. If one-half is sold and the the other half consigned by the producer, we shall find that 44,000,000,000 pounds of milk finds its way to market. If the price of this milk shall rise or fall but one cent per hundred pounds, it means a variance to the producers of more than four million dollars per year. It is therefore manifest to the milk producers that if by co-operation they can make insistent their demand for a reasonable price, the ends to be obtained will fully justify the effort and expense of organization.

Rights of Consumers

In a discussion on this subject it would be thoughtless on the part of producers not to consider the rights of consumers, not alone in the production and distribution of milk, but in many other articles of food. Economies should be found that ought to lessen the cost to the consumer. I am expressing only my personal opinion when I say that such lessening of cost will come slowly unless it be thru co-operation upon the part of producers. There are thousands of examples, and they are multiplying rapidly, demonstrating this statement. The California Fruit Growers' Association, selling nearly $50,000,000 worth of citrus fruit each year over the country, is perhaps our most illustrious example. It formerly cost the fruit growers of California 15 percent of their entire product to sell and market it. Today this cost thru co-operation of growers has been reduced to two percent. No rational man can excuse or defend foolish waste between the producer and the consumer. This is not all the fault of the distributor. Much of it arises thru rivalry for business and extravagances, having their origin in the field of competition.

Other unnecessary costs come from the demand of consumers and restrictions placed upon the business by Boards of Health for sanitary reasons. If Boards of Health would permit milk to be sold in bulk and unpasteurized, if consumers would go to milk stations or grocers and get their milk, if when delivered they would carefully return the bottles in which their milk is bought, if all would pay for the milk purchased, if dealers would divide up their territory and save unnecessary travel of men and wagons in the distribution of milk—if these and many other economies were practised, milk could be delivered for several cents less per quart than at present. Many of these economies are being considered and it may become necessary for the milk producers themselves to shorten the road between the producers and consumers for the benefit of both.

Organization Activities

Care of Surplus.—In the field of co-operation will come the manufacturing of milk and especially surplus supplies of milk by co-operative condensaries, creameries and cheese factories. If the time shall come when thru public restraint or if dealers decline to give the producers a reasonable price for their milk, every association or community supporting 500 cows or more should have a manufacturing plant of some kind to care for its product; for never again will the time come when milk and milk products will return to former prices.

Supplying many of our condensaries, not less than 100,000 pounds of milk are received daily. The value of this milk for ten days would build and equip a condensary which could be owned by the producers, and altho it stands idle and unused would be worth its cost many times over every year in the added price the farmer patrons would receive for their milk.

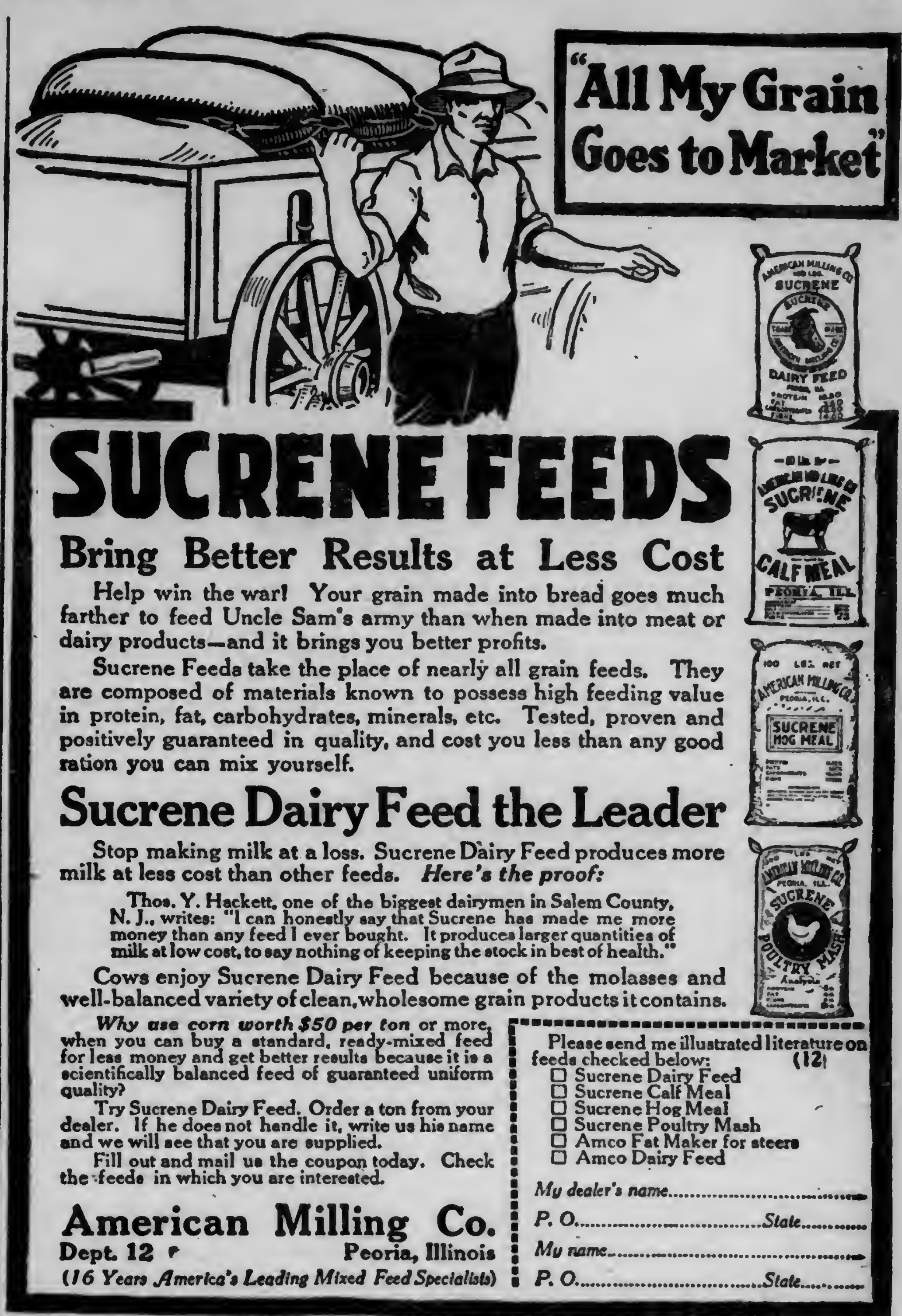
Buying Feed.—Who can explain why sane men outside of asylums should raise corn, oats and barley, sell it to the local dealers who in turn ship it away to the feed manufacturers to be mixed with molasses and grain hulls, shipped back thru retail merchants, brokers, etc., and finally resold to the farmers who produced it, with all the added costs, commissions, profits and called a balanced ration? Why don't farmers by co-operative efforts own their own feed mills, mix their own grains and save this foolish waste for themselves?

Loyalty to Organization

In concluding, I want to emphasize most the necessity of co-operation and constant loyalty to your organization. Appeals that have been made thru the public press to incite hostility to the farmers have been unworthy and will soon vanish when the public shall come to know the real truth. The loudest cry that we have heard has been that the farmers are keeping their milk from the babies and placing it so high that the poor could not buy it. Why not fix the price of steel by what the poor man can afford to pay for an axe or shovel? The theory is not one that can be made practical.

The hearts, hands and pockets of the farmers are as open to charity and good deeds as are those of any class of our citizens. They contribute their share to support the poor in taxes or to help buy milk for the poor if need be, but they do not believe that the burden is solely upon them.

Another thought, and this is not in a defiant mood, but merely in the way of re-assurance. The milk producers need have no fears of legitimate co-operating organizations or of sleeping laws never intended for their regulation. The anti-trust laws of this country are constantly violated everywhere by the great corporations and business interests of this country, and milk producers are not going to be made an exception.



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Sucrene Feeds take the place of nearly all grain feeds. They are composed of materials known to possess high feeding value in protein, fat, carbohydrates, minerals, etc. Tested, proven and positively guaranteed in quality, and cost you less than any good ration you can mix yourself.

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Last year we urged some of our investor friends to purchase certain farm lands in Eastern Oklahoma which were then offered at from $35.00 to $50.00 per acre. Many of these farms in 1917 earned for their owners several times the cost per acre in 1916. We still have a few farms listed for sale at very attractive prices. They are worthy of the consideration of any man who wants to buy a farm. We do not own these lands but with a view to increasing the number of farmers along our railroad, and thereby building up our trade territory, we have interested ourselves in the matter of distributing information in territory where we know there are good farmers, hoping that we can move some of them into Eastern Oklahoma.

We do not charge anything for our services. We will be well repaid if our territory is built up by the removal thereto of a number of men who know how to farm. If you are interested in a farm in Eastern Oklahoma, of the kind referred to above, write me for particulars. R. W. HOCKADAY,
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POULTRY and eggs are going to be the big money-makers this year. Hoover is beseeching little and big poultry raisers to double—triple—quadruple their products. We should raise twice as much poultry and eggs as we did last year. And prices will remain high—and go higher. The demand will take care of that. Why, New York City alone consumed annually One-Half Billion More Eggs than the greatest egg-producing state in America yielded last year! Get wise. Get hatches started quick! Plan for bigger hatches of better chicks. Get a hatch-increasing wonder—a

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Combines 20 Exclusive X-Ray Features. Completely hatches on only one filling oil during entire hatch. Duplex Central Heating Plant—directly underneath, gives natural, moist motherhen heat. X-Ray Automatic Trip regulates flame—no chilled eggs — no overheated sides. Read all about its 20 remarkable hatch-increasing, labor, time and money-saving features—and remember, it is shipped

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Selby Service Satisfies Ship us your produce, poultry and eggs. Penna. Potatoes a specialty. Returns day goods are sold. Ask for our market letter.
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Best Prices Paid Send us your calves, eggs, shellbarks, black walnuts, butternuts and dressed poultry for the holidays.
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261 S. 3rd St., Philadelphia, Pa.

Poultry

WINTER SUCCULENTS FOR LAYING HENS

With winter at hand and the hens in the laying house, the poultryman must resort to artificial means to supply succulent material if he is desirous to keep his flock in good condition. By a succulent food is meant one which contains an abundance of vegetable juices; that is, the juices of a green growing plant. Succulents furnish nutriments in the proper proportion and also play a significant role in the hen's ration. They act as a mild laxative agent and help to regulate the digestive system, thus keeping the flock in a normal and healthy condition. Palatability is also increased and greater efficiency is thus obtained which gives a material increase in egg production.

This Man Finds Profits in Good Care

For succulent feeds, mangle wurtzels, sprouted oats, lettuce, and cabbage may be recommended. The latter two are generally more expensive to supply and not easily obtained unless one has an abundant supply at hand. Mangel beets answer very well all the necessary requirements. They furnish a cheap source of supplying succulents as they can be readily grown and a large yield can be obtained from a small acreage. Mangel beets should be the first crop grown on the poultry farm and should be given preference over grain for poultry feeding. When beets are grown on the farm, the rows should be wide enough to admit of horse cultivation, thus reducing the cost of production. Before harvesting the crop, the tops can be cut and fed to the birds. The beets can be kept in a root cellar or in a specially constructed pit out of doors. Instead of using beets, sprouted oats can be used. The oats should be soaked for twenty-four hours in warm water in galvanized pails or pans. During the soaking, five or ten drops of formalin should be added to kill the spores of moulds, thus insuring a clean and sweet feed. After the oats have been soaked for the specified time, they can be spread out upon trays about an inch thick and put in racks consisting generally of seven to eight trays per rack. The trays should be about ten inches apart to admit free circulation of air. The racks should be kept at a temperature ranging from 60 to 80 degrees. Another method which is in vogue at the present time is the spreading of the oats in the incubator cellar or in the brooder house. The oats should not be sprouted in long rows but in squares of four feet. Plenty of water and heat should always be supplied but an excess should be avoided. When the sprouts are about one and a half or two inches in length, they should be fed, as at this stage the shoots are most tender.

In feeding, each hen should receive about one square inch per day and generally fed at noon. When using beets, one-half of a fair sized beet should be given to every ten birds. The beet should be hung up on a nail about a foot from the floor and the hens should be allowed to pick at it. One word of caution and that is, that neither beets nor oats should be fed in excess due to their laxative powers as diarrhoea may result. During the first week of feeding the droppings may seem to contain a little blood and of softer consistency but this is no cause for alarm as it indicates that the hens are receiving a little too much. In such a case, the succulents should be fed daily, but a smaller amount, and fed on every alternate day and then gradually increased until the proper proportion is reached.—W. W., New Jersey.

CEILING MOISTURE

Moisture on the ceiling of the poultry house is an indication of poor ventilation, overcrowding of the house, or both. It is a danger signal and should be remedied at once, for in a very short time the litter will become damp from the condensed moisture. A damp house is bound to breed disease, particularly such diseases as chicken pox, canker and roup.

It is a hard matter to keep the poultry house dry during the long spells of rainy, sunless weather so frequent during the fall and winter season, but it can be accomplished.

Ceiling moisture is usually first brought about by closing the house too tightly at night, causing the moist heat rising from the fowls to condense upon the ceiling. While the days are warm and sunny, the moisture evaporates, but when cloudy, rainy spells prevail the moisture rapidly accumulates and soon becomes a serious menace to the health of the flock.

Every poultry house should have muslin or duck screens of sufficient size in the front. A house eighteen by twenty feet with an average height of six feet, housing from eighty to one hundred hens, should have at least two openings protected by duck covered screens each four by three feet in size.

In our houses of this size, not more than one of these screens is closed at night except in the most severe weather. We have found that moisture will almost invarably collect on the ceiling if both of the screens are closed.

In a house ten by twelve feet, containing twenty-five fowls, we find one screen of the size mentioned sufficient, but it has been found absolutely necessary that this screen be left open a few inches at night in order to avoid the collection of moisture on the ceiling.

Curtains are used at the droppings boards and it has been found best in mild weather to drop these and leave the front screens open rather than close the front screens and leave the droppings board curtain up.

The windows in the poultry house should be constructed so they can be used for ventilation when beating storms make the opening of the screens impossible.

A very good plan of ventilating which we have found very satisfactory is to cut a hole one foot square in the back wall of the poultry house over the roosts and as near the roof as possible. From this hole construct a tight chute to carry the air over the heads of the fowls on the roosts and diffuse it over the ceiling. A hinged door, controlled by a rod passed down the chute, should be placed over the opening. In a ten by twelve pen one such opening will be found sufficient, but two will be needed in pens twenty feet square. One opening to every ten feet of length is a good rule to follow.

In cold stormy times, when the front screens cannot be opened, sufficient ventilation can be obtained by opening the ventilators, thus drawing a current of air thru the duck screens and out the chute or otherwise as the case may be. Such ventilators will also be found a great help in keeping the houses cool in hot weather.—J. Raymond Kessler, Chester Co., Pa.

THE WINTER FLIGHT OF BEES

The thirtieth day of January was a cloudy, foggy, drizzly day, with the temperature at about 48 degrees. The bees came out in full force, their first flight in over a month. Altho bees will live thru a much longer period of confinement, it is necessary for their health and well-being that they may fly out at least once or twice during our long winter months. The results of too long confinement are seen in vast numbers of dead bees in spring—there are a large number which perish under the best conditions—and in attacks of dysentery which weaken the survivors. Therefore it is always a satisfaction to the bee-keeper to see his bees flying out on warm, calm days in winter, as it means longer life and renewed vigor to the colonies.

The mid-winter flight is attended by some danger to these bees. The warmth of the sun, shining directly on the colonies, may tempt the bees to fly out, even when the wind is blowing strong and chill. Under these circumstances many of the bees are numbed by the cold and are lost. A sudden storm of wind and rain may overtake others, and being weak and half-helpless from long inaction, they never reach the shelter of the hive. This is only one of the

many dangers which threaten the lives of worker bees, and bring many of them to an untimely death.

The flight of bees in winter and spring is unlike their summer flight. There is not the same headlong haste to begin the journey; they usually crawl about on the alighting board, or up the front of the hive, before taking flight. Even their hum is different—a lower tone, not quite as sharp and decisive as in summer. Probably their wings vibrate less rapidly in winter, after a long period of inactivity in cold air. Again, the workers which come forth in late winter and early spring have reached extreme old age for bees. Probably they were hatched in September, and are therefore seven or eight months old, almost double the age of bees which hatch out in spring and are doomed to die in three or four months from over-work and exposure. These veterans of winter are spared to perpetuate the colony from year to year, but their work is done when the first brood of spring is ready for active out-door work, and probably not a single bee of the winter colony lives till mid-summer.

When the bees come out of the hive in winter they seem to fly straight away, without the elaborate circling flight with which bees impress on their own senses the location of their home, that they may return unerringly after each flight. The knowledge of location seems to remain with the bees till their last flight, and is not even forgotten when they come out after six or eight weeks' confinement in their hive. It seems probable that they may remember the different localities where they gathered fall nectar during their first flights, but if they revisit these places in winter they will be sadly disappointed. However, the spring branch where they obtained water is still running as they knew it months ago, and here we may see them drinking on this mild January afternoon. Perhaps after a vain search for flowers over the fields and woods, the bees return to their homes, satisfied, for the present at least, to live on the garnered sweets of seasons past and gone.—John Marsh, Jefferson Co., Ohio.

A WHEATLESS RATION

The U. S. Department of Agriculture has been feeding a wheatless poultry ration in its regular experimental work at Beltsville, Maryland, with results comparing favorably with egg yields secured on rations containing wheat. The wheatless ration is as follows:

Scratch Mixture.—Two pounds cracked corn, one pound oats.

Dry Mash.—Three pound corn meal, one pound beef scrap.

The scratch mixture and dry mash were used in about equal quantities. A flock of 30 leghorn pullets fed this wheatless ration produced an average of 147.3 eggs during their first laying year, showing that wheat is not essential for egg laying.

An experienced poultry woman says: "No difference how cheap, I have never yet found a really poor incubator, nor one that would not hatch you plenty of chicks if you strove to do your duty by it. Every farmer's wife should have at least one good incubator and learn to know it thoroly and not get discouraged until she does. You have no idea until you make it work how fast an incubator helps increase Biddy's flock of chicks".

PROGRESS WITH POULTRY

The farmer who becomes interested in purebred poultry is likely to show considerable enthusiasm in the foundation stock. The first enthusiasm will carry him over many of the disappointments which may occur in the development of the flock. However, after the foundation of the business has been established nothing but progress will enable him to continue his interest in the birds. The business must show progress and this means that the profits must increase and the flock improve. For example, Smith buys a pen of fine purebred fowls and after the first two years he looks over the flock and notes its condition. The birds may have been carelessly bred and housed and all this will show in the appearance of the flock. Lice and mites also mark the birds in a short time with that appearance of low vitality which is often present among certain individuals in farm flocks. At the end of the two years, Smith loses his initial enthusiasm over purebred poultry and if he cannot brace up and show an improvement he will soon be out of the business. Nothing but progress with the flock will hold his interest, and there will be no progress without careful management and the same brand of enthusiasm which started the business.

Jones buys a pen of fowls and gives them proper care, and at the end of two years he may have lost much of the amateurish enthusiasm with which we went into the business, but he has learned a great deal about fowls and the general progress in the business assists him in keeping up his interest. There are many points of interest in raising poultry and it is easy for a man to become enthusiastic about hens but such enthusiasm will not last long unless it is backed up by signs of progress in the business. Progress with poultry means study and hard work. One week of poor care cannot be repaired during the next week. Probably the reason that there are so few real successes with farm flocks is the fact that there is no period when the poultry man can relax.—R. G. Kirby.

THE EARLY LAYING PULLET

The writer's experience is that the pullet that begins to lay in the fall and lays well all fall and winter will also lay well during the spring and summer months.

If one would work up a laying strain of fowls, the work of selecting the best layers as breeders should begin six months or a year ahead of time. The pullets that are fully developed and begin to lay early in the fall should be penned to themselves and their performances noted. If they lay especially well all fall and winter they should be marked and held over until the second spring as breeders.

Many farmers use pullets in the breeding pens. A pullet that is fully developed may produce a large number of hatchable eggs, but the writer's experience is that chicks hatched from pullet eggs are not as strong as those hatched from eggs laid by older stock.

The old hens that have been selected for breeders should not be forced for egg production during the fall and winter months. Egg production is a heavy drain on their systems and the old hens who lay well all winter will be so weakened by spring that they will be in no shape to transmit strength and vitality to their offspring.—T. Z. Richey.

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Marketing Farm Products---III

Results of an Investigation Conducted by Rex Tugwell

"It is also interesting to note that the Grocery Supply Co., who had potatoes for sale at 45 cents a peck, advertised in the Erie Morning Dispatch of that date (8-21-17), Erie County potatoes—20-pound baskets at 75 cents—a rate of $2.25 per bushel—doubtless for housewives ordering by telephone who did not visit the market.

"The published New York quotations (Buffalo Courier 8-21-17) for this date were $3.00 and $3.50 per barrel for fancy new potatoes.

IV. Erie

"A brought 38 baskets of tomatoes. He sold a few to consumers at $2.00 per 20-pound basket (10 cents a pound). The rest were sold to two stall-renters. One of these sold them over the counter at 15 cents a pound, the other, in the next aisle, at 16 cents. Advance in price—50 percent.

"At the same hour the Mohican Co. was selling tomatoes of slightly better quality at 21 cents a pound—more than 100 percent higher.

"These four cases (and others similar) are illustrative of the following points:

1.—The relative inability of the farmer to dispose of his own produce: (a) Because of less favorable situation and display; (b) pressure of time; (c) quality of salesmanship and desire to be rid of produce quickly and at one sale.

2.—The lack of interest on the part of the consumer in real producer-to-consumer marketing.

3.—The relatively higher prices ruling at stores doing general grocery business.

4.—The relative ineffectiveness of the market (few farmers bringing produce and few consumers buying).

Note.—The last point was especially striking. The opinion of farmers (also housewives who were asked about it) was that lack of interest and control by city authorities was somewhat responsible. The investigator could not substantiate these statements.

"The farmers here also commonly complain of the activities of the one large produce dealer of Erie who habitually breaks the local market by shipping in produce, later buying rapidly at an artificially lowered price. An instance of this could not be definitely established, however."

Other Markets

Many similar quotations might be taken from that same note book written at the time of the investigations.

I was by no means new to the study of market conditions; but there were many things which came home to me as they never had before, partly because of the fact that my entire time was given to the collection of this data, and partly because there was much time to turn it over in my mind and reflect on its meanings.

Here is a description of Philadelphia's markets made from actual observation:

"This is the fifth morning that I have visited the wholesale market where produce consigned to Philadelphia commission men is sold. I am more than ever struck with the utter irresponsibility of this method of transferring goods so vital to a city's life.

"The man who represents Mr. Butterworth has been very amiable as usual. Today he had a carload of onions from Ohio and several consignments of peaches. He told me today that he had been in this business since boyhood, which reminded him of his own boy. He then told me a story without in the least seeming to realize its large significance as an illustration.

"One time a year or two ago when the Philadelphia market was flooded with New York state peaches selling at 30 cents and 35 cents per bushel—a great many of them rotting without buyers on every platform—he suddenly remembered the great love of his wife for peaches about which she told him often. She often said, "I should like just once to have all the peaches I want". He put 50 bushels on one of the firm's wagons and sent it to his home.

"Soon his wife called him on the telephone and inquired what he expected her to do with all the peaches. He replied that he had heard about peaches all he cared to hear and determined that she should once for all have all she could use.

"He laughed and thought it a good joke; but when he arrived at home he found that his eight-year old son had sold all but five bushels of the peaches at 75 cents and 80 cents a bushel to the neighbors. Those five bushels his wife had decided to keep.

"This same man cursed heartily a moment later when I suggested that some change in the system of food distribution must be found. He suggested that such schemes were gotten up by people who wore good clothes and had too much time on their hands. I did not, as I might have done, point out to him the moral of a situation where peaches rotted on the platforms of the commission man while prices were little less than usual to the consumer.

"The onions he disposed of in small lots to hucksters and small grocers. I was able today to trace three shipments to the consumer through tips furnished by him. I note those later.

"I tried as on other days to discover the actual method by which prices are fixed but I could make little progress. I am more and more of the opinion that the price is determined, not by the psychology of the moment, the clash of minds and the sudden common recognition of a certain price-figure as the point at which goods must change hands; but rather that that price-point is pre-determined. The seller seems to have an advantage recognized by the buyers. Theirs is a negative power. They can say 'no' to his asking price. But when he holds a car of onions of which they want five or ten bags they are at a distinct disadvantage. They cannot bargain. I have a feeling always that the representatives of commission houses in this market are asking a price determined somewhere else. I am confirmed in this feeling today by a great authority on marketing who said to me that he does not doubt that a certain dealer in Philadelphia sets the potato price for the Atlantic states. I am equally sure of it though it will be a long time before sufficient evidence has been accumulated to prove the contention.

"Any such suggestions made to a commission man meets not only with prompt denial but with ridicule. The denials are too vigorous and the ridicule too bitter to always be convincing, however.

"After leaving the wholesale market I traced my consignments, at the same time making my daily price record from retail stores."

This is perhaps the best thought of this report—to be found in notes made on the spot. They give a color and conviction that the actual price-tables and reports cannot compass. As I recall the moods in which these notes were taken, I cannot escape the feeling that unscientific as they may be, still they give a truer picture of the market with its whimsicalities, its complex reactions, its unanalyzable situations, than any figures I have been able to gather, valuable as they may be.

Following are a number of cases selected as the most significant of those traced in Philadelphia and its contributory territory.

I. Philadelphia

A, in Ohio (one of the largest onion growers of the United States), shipped a carload of onions (269 bags) consigned to a commission firm in Philadelphia. These were sold at $2.24 per bag of 100 pounds. The general price for the day was $2.75. These sold lower because of greenness an duneven size. Later in the day these onions sold at three, three and one-half and four cents a pound in three different stores in Philadelphia, this price difference representing a normal difference for these stores. One was located in the Jewish district on 4th Street, another at 22nd and Spring Garden Street and the third at 49th and Baltimore avenue. The chain stores were selling better quality onions on this day at three cents a pound. One significant thing about this consignment was that grades had disappeared when the onions reached the consumer. They were sold by the retailer as first-grade onions, sold in one instance for the same price as higher grade onions which were displayed in another part of the store.

II. Philadelphia

Peaches were shipped by A from Ellerdale, D. C. The commission firm to whom they were consigned sold them as partly spoiled at 30 cents per basket. They were later retailed by a Jewish huckster at 90 cents and $1.00 a basket.

III. Philadelphia

A part car-lot of potatoes from Eastern Virginia consigned to Baltimore was there re-shipped to Philadelphia, was sold from there to Allentown. In Allentown it was sold to a retailer who in turn broke it and sold it by the peck at 47 cents.

IV. Philadelphia

A part car-lot of peaches was sold near Erie to a farmer-dealer who loaded and shipped them to Philadelphia. They were here sold to a wholesale-retail firm in Coatesville, Pa. The price range from producer to consumer was 53 cents.

Observations similar to those just quoted appear everywhere in the notebook. Here is one other on Pittsburgh:

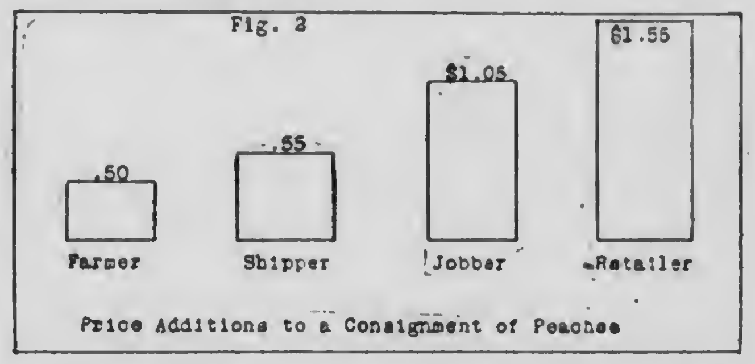
"This market differs radically from that of Philadelphia. Prices range much higher and almost no farmers come into the city with perishables. This is probably because of the hilly, rocky contour of the country in the immediate neighborhood of the city.

"There are vast shipments into this market from produce concentrating points; and perishables from a large radius appear every day. This is an exceptionally good market for California fruits.

"I traced two shipments today and found the margin of profit to be considerably larger than in Philadelphia, confirming the conclusion I had already drawn from the prosperous appearance of the jobbing houses and the jobbers.

"One shipment was pears originating in Ohio, and the other was peaches from Western-New York State. On the pears the jobbers' margin was 18 percent of the retail selling price. The retail selling price was two cents per pear above the price paid by the retailer—75 percent above the jobbing price. I could not definitely ascertain the price received by the producer, but it lay somewhere below the price asked by the jobber.

"The peaches sold to consumers at $1.55 per ⅝ bushel. They were very good quality and of exceptional flavor. The farmer received for these 50 cents; the shipper 55 cents, the jobber $1.05, and the retailer $1.55. This was an advance of something more than 200 percent. This I learned from other sources and a great deal of evidence not so complete as the foregoing is common in the perishable business here.



"Very little produce comes to this market on consignment. Most of it is bought in the field by representatives of the jobbers or else is bought direct by getting in touch with some collecting-shipper at a country produce point."

The markets of Wilkesbarre and Harrisburg do not differ from that of Erie in general except in the somewhat greater facilities afforded farmers for trading directly with the public. The market structure is much the same; and there is no definite and intelligent public policy with regard to the food supply.

(Continued Next Week.)

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Household

VISIT THE SCHOOL AND KNOW THE TEACHER

Mrs. Benn's article on "Farm Women and The Schools" appealed to me particularly because it presents a phase of the subject so generally ignored. I, too, am a rural mother. For several years I was a rural teacher, and I used to be a rural pupil. So I have seen the situation from about every possible angle. Mrs. Benn says the children of the visiting mother get a square deal because the mother is in touch with the school, which is perfectly true. But we are all, unfortunately, familiar with the mother who credits every complaint brought home by her children to favoritism on the part of the teacher, and yet wouldn't visit the school under any consideration unless possibly to criticise.

We who have had the experience know, too, that while the teacher may try even harder to give a square deal to the child whose mother does not visit, in many instances it is impossible without the understanding that can come only from mutual effort. I have regretted during all the years since I taught my first school, the little "spats" I used to have with a certain boy because I insisted upon his obeying the same rules the other boys observed. I know now that he was physically unable to do so. He wasn't getting a square deal, but I can't see that I was particularly at fault. His was a deficiency I could not possibly discover for myself, and one that I am sure he never would have told me, tho in every other respect we were good friends. But his mother often brought her children to school so that I caught at least a glimpse of her a great many times. She knew, and why did she not tell me? If that mother could have visited me early in the year, five minutes of explanation would have saved lots of suffering for her boy; and why would not any mother prefer to do it? Even if she felt "ugly" and could tell me only in a fault-finding way, it would have been infinitely better than not at all—I could have saved the boy and that was the point of chief importance.

Another mother of a particularly troublesome little girl told me of previous conditions that I should have supposed would have killed the child. They only made her extremely nervous and rather ill-tempered. Other teachers had had lots of trouble with her, and no doubt I should have had but a proper understanding of the case entirely eliminated the difficulty. One can often get along very nicely with a child after a little explanation, while the same child would always be in "hot water" without it.

I do not like the idea very well of entertaining the mothers only on stated visiting days. The habit of "dropping in" seems to me far more beneficial to all concerned. The teacher can become but slightly acquainted with a lot of mothers who come at once and the spirit of intimacy that should exist between the several caretakers of the individual child is completely lost.

In my own childhood days my mother and just one neighbor always visited the school systematically every term. My mother had lots to do and was not strong, but she attended to this as one of her most important duties. I am sure we were always glad to see her and I believe the teacher appreciated her coming. I can look back upon surprisingly few mothers who visited my school during my teaching days, but those few were doubly welcome. Why can not all rural mothers realize the need and place the regular visiting of the rural school and an acquaintance with its teacher in an important position among their essential tasks?—Mrs. E. M. Anderson, New York.

HOW TO MAKE CIDER VINEGAR

The department of horticulture of the Missouri College of Agriculture offers the following essential points for making good cider vinegar:

The larger the quantity of natural sugars in the juice the better the quality of the vinegar. To make good vinegar the apples should be thoroughly ripened. Green apples contain much starch but little sugar. Fully ripe, crisp apples contain the maximum quantity of sugar in their juice. As apples get over-ripe or mealy, sugar in their juice is rapidly lost. If one has varieties like Ben Davis, which is low in sugar, it is well to mix with them varieties like Jonathan, which is high in sugar. All rotten parts or trash should be discarded. A bushel of apples should produce from three to four gallons of juice provided the press is an efficient one and the apples are properly ripe.

The best temperatures for turning the juice into vinegar is from 65 to 75 degrees F. At a temperature of 65 degrees, fermentation goes on slowly and two years or more may be required to make good vinegar. The time of making may be reduced one-half in a temperature of 85 degrees. At this temperature some of the products of fermentation are lost and the vinegar will not be as high a quality.

The first stage of fermentation changes the sugar in the juice into alcohol. While alcoholic fermentation is going on bubbles or beads rise to the top of the fermenting juice. When these beads cease to rise at the end of a few months, acetic fermentation begins. At this stage "mother" from old cider vinegar may be added.

Fermentation will be more rapid and successful if the juice is kept well aired. For that reason the casks or barrels should not be more than one-half or two-thirds full. This admits a good air space above the fermenting juice in the barrel. The bunghole should be left open for the entrance of air, but screened with mosquito netting to keep out vinegar gnats or other insects.

Type of Single Nest Fireless Cooker.

In making vinegar, fresh juice should never be added to older juice that has already begun to ferment. As acid in the older juice has begun to form, it will prevent proper fermentation of the fresh juice which is added.

VESSELS FOR CURING MEAT

A clean hardwood barrel is a suitable vessel in which to cure meat. A barrel made for the purpose is best, but where it can not be had a molasses or syrup barrel will answer. A kerosene barrel that has been burned out and used for a water barrel for sometime is often used for a meat barrel. The point is to have it clean and tight enough to prevent leakage. A barrel may be used again and again unless meat has spoiled in it. It should be scalded out thoroly each time before the meat is packed in it. A large stone jar is the best vessel that can be had. One holding 25 or 30 gallons is expensive and must be handled carefully to prevent breakage.

Pivot Stool in Kitchen

Pickled Pig's Feet

Soak the pig's feet for 12 hours in cold water. Scrape them clean and remove the toes. Boil until soft, 4 or 5 hours will usually be required. Salt them when partially done. Pack them in a stone jar and cover them with hot spiced vinegar. They are served cold or split and fried in a batter made of eggs, flour, milk and butter.

OATFLAKE BREAD

Try this oatflake bread some day; we call it delicious. To 1 large cup of oatflake add 1 pint boiling water, and let stand 1 hour. Add ½ cup New Orleans molasses, 1 tablespoon butter, 1 quart flour, ½ yeast cake dissolved in warm water, and let rise over night. In the morning put in bread tins, let rise until light, and bake 1 hour in a moderate oven. It is delicious, nutritious, and easily made, and is equally good hot or cold. People here serve this as a special delicacy for Ladies' Aid meetings and company dinners generally. It helps to conserve the wheat.—Mrs. E. M. Anderson, Chautauqua Co., N. Y.

WHAT WE HAVE CANNED

There are five in our family, and we care less for canned fruits and vegetables than most people. We almost never buy any such thing; but we do like a good supply of potatoes, cabbage, carrots, beets, turnips and onions stored in the usual way for winter use. Just at present we are canning pears and peaches, but we have not yet begun on mixed pickles, sliced tomato pickles, chowder, beet salad, or, indeed, anything in that line, though we have the material for them all in our own garden, and fully intend to prepare as much as we can use till such things grow again. Apples are certainly "few and far between" in our orchard this year, but if I can gather up enough I want a quantity of apple butter. Up to date, we have about 10 quarts of pears, 12 of peaches, 3 of pear butter, 30 of blackberries, 1 of tomatoes, 2 of raspberries, 2 of asparagus, and 10 of cabbage. Several cans of cherries, peaches, berries, ginger pear, etc., were left from last year, so we probably have approximately 100 quarts, which is rather an unusual quantity for us, though I know many families for whom 500 quarts would be less generous. I haven't made a bit of jelly because we expect to take apples to the jelly factory and have several gallons made. With this for cakes and similar uses, a very small number of fancy jellies in glasses will be all-sufficient.

Now I am going to look over my garden and see if last night's frost nipped my stuff through the various sacks, blankets and old carpets in which I put it to bed.—Mrs. E. M. Anderson, Chautauqua Co., N. Y.

CORN AND CHEESE

Corn may be used with cheese in place of macaroni in a delicious and nutritive combination dish. The following recipe has been worked out by the U. S. Department of Agriculture specialists:

Ingredients: 1 cup of samp (coarsely ground or cracked corn); 1 quart of water; 1¼ teaspoons salt. Boil the samp in the salted water until tender. Drain and combine with the following sauce: Ingredients: 1 cup skimmilk, 1 cup finely cut cheese, 2 tablespoons flour, 1 teaspoon salt, ¼ teaspoon mustard, paprika or other seasoning. Mix the seasonings with the dry flour. Add enough milk to form into a smooth paste. Add the remainder of the milk and heat in a stewpan, stirring constantly until thick. Add the cheese and stir until it is thoroly melted. Put a layer of the boiled samp in a baking dish or casserole. Add a layer of sauce and so on alternately until the material is all used. Sprinkle bread crumbs over the top layer of sauce and cook in a medium oven until the crumbs brown.

Lye Hominy or Hulled Corn.—Is fine served thus: Make a rich sauce by melting 2 teaspoons butter in a saucepan, mixing in 2 tablespoons flour seasoned with 1 teaspoon salt, ¼ teaspoon mustard, pepper or paprika. Add 1 cup milk and heat, stirring constantly until the sauce becomes thick and smooth. Add 1 cup finely cut cheese and stir until it is melted.

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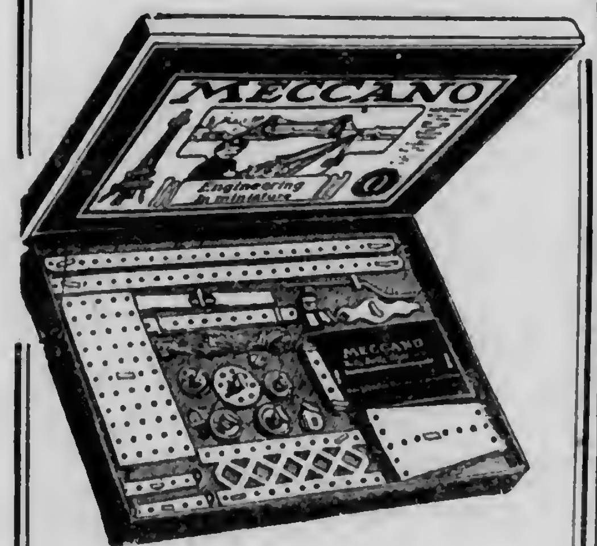

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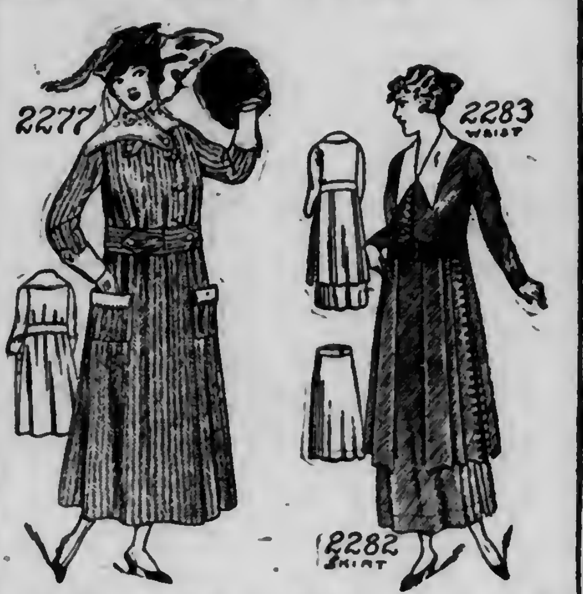
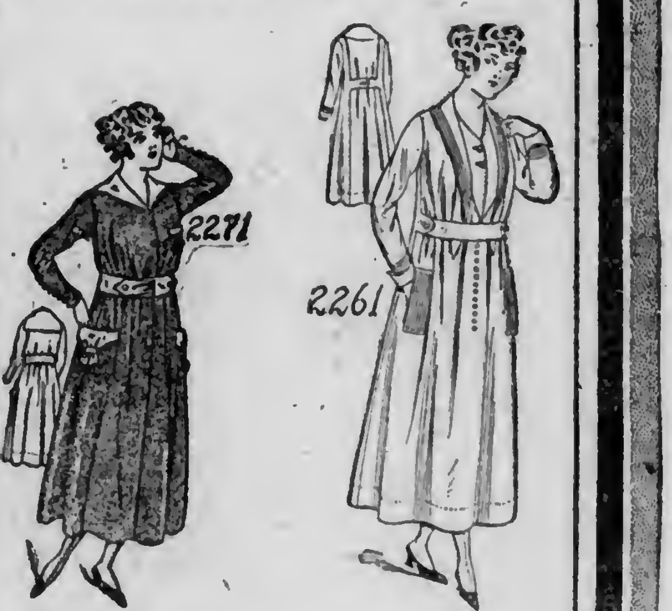
2277—Seasonable Coat.—This coat model is fine for double faced woolens, for broadcloth, velour, corduroy, serge, plush and other pile fabrics. The lines are simple and stylish. The garment is easy to develop. Mixed cheviot suiting in green and brown tones was combined with green broadcloth for collar and cuff facings for this model. The pattern is cut in 7 sizes: 34, 36, 38, 40, 42, 44, and 46 inches bust measure. Size 38 requires 6½ yards of 54-inch material. Price, 10 cents.



2283 (Waist)—2282 Skirt—Stylish Costume—in navy blue serge with facings of gray or tan it will make a smart dress. The waist pattern is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. The skirt pattern is in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. The skirt measures about 3 yards at the foot, with plaits drawn out. To make this costume in a medium size will require 8 yards of 44-inch material. Notice that this design calls for two separate patterns, which cost you 10 cents each.

2271.—A Simple Stylish Model.—This will make a smart dress in serge, cashmere, gabardine or mixed suiting. The fronts are closed in coat style, and a neat sailor collar finishes the neck. The pockets have shaped flaps. Stitching, braid or embroidery will make a neat finish for this dress. Pattern is in 3 sizes: 16, 18 and 20 years. Size 18 will require 4⅞ yards of 44-inch material. The dress measures about 2 yards at the foot. Price, 10 cents.



2261—A Smart Gown.—This is a good model for cashmere or serge. In blue serge trimmed with rows of flat braid, and with vest and facings of contrasting material, it will be real smart. In cashmere the trimmings could be satin or taffeta. For simple finish, the dress could be of one material, with a touch of color in embroidery. Pattern is cut in 6 siezs: 34, 36, 38, 40, 42, and 44 inches bust measure. Size 38 requires 5½ yards of 46-inch material. The dress measures about 2⅜ yards at the foot. Price, 10 cents.

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Dec. 10, 1917.

On account of the extremely cold weather prevailing during the fore part of the week, there was but very little business being done in any kind of vegetable. Receivers of potatoes, cabbage, and rutabagas were reluctant to open their cars, and buyers of all kinds of southern vegetables such as beans, peppers, egg plants, tomatoes, lettuce and other tender young vegetables were demanding that all packages be wrapped to protect them from the cold. In consequence, trading was only carried on for immediate and urgent needs.

The demand and movement in potatoes continued slow, and this condition is also being noted at nearly all primary shipping points. Prices are generally weak, and owners of potatoes are showing a disposition to await events rather than force their potatoes on a reluctant market. The supplies on hand in Philadelphia are very light for this period of the year, there only being a total of 61 cars on track in both the Pennsylvania and the Reading railroad delivery yards. New York State stock is being sold at $1.80@2.10 per cwt., as to quality and condition, while Pennsylvanias bring all the way from $2@2.50 per cwt., but stock has to be very fancy to bring the outside quotations, most sales of choice stock ranging from $2@2.25. Eastern shore barrels are at least 25 cents per barrel lower than last week, ranging from $2.75@3.25 per barrel for primes, with No. 2's selling all the way from $1.25@2. Nearby stock in ⅝ bushel baskets finds a steady market with prices showing no change, ranging from 75 to 85 cents per basket.

Good fancy house sweet potatoes are ruling firm and gradually advancing. Most sales are now being made at $1.15@1.25 per ⅝ bushel basket. Supplies are very light, and good stock cleans up promptly. Some Delaware and Maryland stock in hampers is finding its way here and selling around $1.65@1.75 for primes, while No. 2's seil at $1@1.10. There has been no Eastern Shore barreled stock during the past week.

Vegetables

Dried beans are in very light supply, and the demand has readily absorbed all offerings of Marrows as fast as they come in at about $15.75@16 per cwt. Pea and medium beans are not quite so active and outside prices on those are extreme, prices ranging from $14.50@15. Red Kidneys are lower than last week, and are now selling at $15.50@15.75. String beans from southern points have taken a sharp advance over last week, supplies being very scarce Strictly fancy are selling up to $5 per hamper while poorer grades sell on down as low as $3. Winter beets from New York State, Pennsylvania and New Jersey points are firmer and higher, selling at $2.75@3.25 per barrel. Bunch beets are also active at $2.50@3.50 per bunch. Carrots on the other hand are dull and weak. Quite a few New York State rough carrots have been on the market and are moving hard at $1@1.25 per cwt., while some third-barrel hampers sold at 75 cents. Pennsylvania carrots when washed sell at 40@55 cents per basket.

The cabbage market continues in very good shape with sales of good fresh Danish ranging generally at $35@38 per ton, some strictly fancy is bringing in a small way $40 per ton. Cauliflower did not long maintain its advance of last week, the higher prices bringing increased supplies, and prices rapidly declined until sales were made as low as $1.50 per crate. A slight reaction has occurred from these low prices, however, and sales are now generally made at $1.75@1.90 per crate. Celery is not quite so active as last week, prices being barely steady at $3.50@4 per crate for best stock, with grades selling on down to $2.50. Washed and bunched sales are made at 40@60c. Egg plants show practically no change, fancy plants selling at $3@3.50, with some poor as low as $1.50. Supplies have been light. Horse radish remains steady at $4.50@8 per barrel as to size and quality. Mushrooms are ruling firm and active at 50 cents per pound for best stock, with poorer grades on down to 40 cents.

Onions, after being very dull and draggy for several weeks, at last appear to have taken a renewed strength. Sales have been made this week at $2.75@2.90 per cwt. for fancy stock. There is, however, still some poor onions around which are cleaning up slowly at $2 per cwt. Parsnips are meeting a steady demand with prices showing no change, ranging from 50@60 cents per ⅝ bushel basket. Not many pumpkins are coming but the demand seems to be light at $3@10 per 100. Parsley is meeting a better demand with prices from $1@1.50 per barrel higher than last week, and now ranging from $5@7. Peppers are very scarce and extremely high, some crates from Florida selling at $7@8. Spinach has been very scarce and the high prices prevailing last week were fully sustained this week, sales being made from $4@4.50 per barrel. Squash continues very scarce, but prices are not so high, as $3 per crate seems to be about top, with some sales as low as $2. Pennsylvania yellow turnips continue in light supply and when here readily bring 75@90 cents per basket. Yellow Aberdeens and white turnips continue in ample supply and prices rule low, white selling at 25@40 cents and Aberdeens at 40@50 cents per ⅝ bushel basket. Canadian rutabagas took quite a drop last week, and prices now rule generally at 60c@$1 per cwt. Watercress continues in ample supply for all demands which are rather slow and selling at $1@1.50 per 100 bunches.

Fruits

Although the receipts of apples this week have been light, the movement has not been up to standard for this period of the year. The cold weather prevailing early in the week was partly responsible, as buyers only operated in a small way. Prices, however, were steadily held and show practically no change over last week, ranging about as follows: Baldwins, $3.25@$5; Ben Davis, $3@4; Black Bens, $3.50@4.50; Black Twigs, $3@4.75; Greenings, $3.50@$5.50; Hubbardstons, $4@5; Starks, $3@4.75; Spys, $5.50; Kings, $3.50@5.75; Twenty Ounce, $4@5; Stayman Winesaps, $4@6.25; Snows, [illegible]50@5.50; Jonathans, $4@6; York Imperials, $3@5; Winesaps, $3@5. Occasionally some extra fancy fruit in various varieties is exceeding these quotations. Western box apples are not quite as active as last week, but prices are being held about steady. Rome Beauty selling at $1.50@2.25; Jonathans, $1.50@2.15; Pearmain, $1.90@2.10; Winesaps, $2@2.40; Delicious, $2@2.65; Spitzenburg, $1.90@2.25. Some bulk apples are being sold at $1.75@2.25 per cwt.

Only a few Keiffer pears and a few Seckles are being offered, Keiffers selling at $2@3.25 per barrel, and Seckles at 4@6. The cranberry market seems to be stronger every day. The supplies left on hand are very limited and the feeling is very firm. Barrels are now selling at $10@14, and crates at $3@4, and stocks are being reduced daily. Chestnuts continue scarce and bring good prices ranging from $8@9 per bushel. Black walnuts are in fair supply and demand at $1@1.50 per bushel. Shellbarks are very scarce and would command $3@4 per bushel.

Poultry

The general market is quiet at present, but this of course is only temporary, as the Christmas demand will soon start. Advices from shipping points are strong and prices can be expected to show some improvement for the Christmas Holidays. Chickens and fowls of fancy grades are held steady at 24@28c, with some poor marks selling lower. Fancy turkeys are selling at 33@36 cents with poorer grades at 30@32 cents. Broiling chickens are firm at 33@36 cents for best with poorer marks at 30@32 cents. Ducks are showing no change from last week's prices, selling at 23@28 cents as to quality. Geese are ranging from 22@25 cents. Rabbits are in good demand at 60@75 cents per pair for cottontails, with Jacks bringing from 85@$1.15.

While supplies of live poultry are not very heavy, the market generally is quiet, although prices are showing practically no change over last week's quotations. Fowls are selling at 21@24c; chickens, 20@24c; old roosters, 18@19c. Turkeys are steady at 27@28c. Ducks show quite a wide range, White Pekins at 25@26c, while other breeds range from 20@25c as to kind and quality. Geese are also bringing from 22@26c.

Eggs

Fresh gathered eggs are in very light supply, and indications seem to be that there will be no important increase in the near future. Under the scarcity, fancy fine eggs are selling promptly at high prices, firsts selling at 54@55c per dozen, and current receipts at 53c. Seconds are selling at the way from 44@49c per dozen as to quality. Fancy carefully selected and graded and candled eggs are jobbing out from 60@63 cents per dozen.

LANCASTER PRODUCE

Lancaster, Pa., Dec. 10, 1917.

Produce was abundant in the closed markets on Saturday, but the curb was poorly attended by farmers. Eggs were displayed in large quantities and sold at 55 cents a dozen. Butter was very scarce and sold at 55 cents, more than the best creamery butter commands in the stores. Because of the high cost of food, the matter has been taken up by City Councils and an investigating committee has been appointed by Mayor Trout.

Butter and Eggs.—Creamery butter, 52@54c per lb; country butter, 55c; fresh eggs, 55c per doz; storage eggs, 40c; western eggs, 45c.

Poultry.—Old dressed chickens, $1.25@1.75; young dressed chickens, 90c@$2; live chickens, $1.50@2 per pair; old live chickens, 18c per lb.

Vegetables and Fruits.—Lima beans, 18c per pint; spinach, 25c ½ pk; new turnips, 18c ½ pk; potatoes, 12@20c ½ pk; do., $1.15@1.35 per bu; sweet potatoes, 30c ½ pk; eggplant, 5@10c each; cabbage, 5@10c hd; cauliflower, 15@20c hd; pears, 20@25c ½ pk; apples, 20@30c ½ pk.

Grain Market.—Milling wheat, $2 per bu; damp wheat, $1.80; new ear corn, $1.15; rye, $1.65; oats, 65c; No. 1 timothy hay, $23 per ton; clover hay, $18; wheat straw, $12; oat straw, $10.—R.

YORK PRODUCE MARKET

The city markets were only fairly well attended this week. The attendance of farmers was below the average and trade was dull and listless. Potatoes, apples and poultry are low in price, but a few men with first class apples are getting exceptional prices for the season. Apples sell as a rule below the prices received the past two years. Poultry runs the same, while potatoes, thru the buying of outside parties held the level of last fall for two or three weeks but since the 15th ult, they are actually sold by the load as low as 75c to 80c a bushel.

Eggs.—54@56c per doz.

Butter—Country, 45@48c lb; separator, 50@52c. Milk, 10c qt.

Poultry.—Hens, 18@19c lb; dressed 60c @$1 each.

Vegetables—Potatoes, 12@20c ½ pk; 75@$1.25 bu; cabbage, 3@10c hd; lettuce, 5@10c hd; radishes, 6c bch; beets, 3@5c bch; onions, 12c bx; 25@30c ½ pk; lima beans, 35c qt; soup beans, 34@40c qt; celery, 5@10c stalk; turnips, 20@25c ½ pk; eggplants, 3@8c ea; corn meal, 10@12c qt.

Fruit—Apples, 12@35c ½ pk; pears, 3@10c bx; 15c ½ pk.

Retail Grain Market.—Wheat, $2.25; corn, $2; oats, 90c; rye, $1.90; bran, $2.20 cwt; middlings, $3 per cwt.

Wholesale Grain Market.—Wheat, $2.07; corn, $1.60; rye, $1.40; oats, 70c; bran, $34.50@88 per ton; middlings, $50@58 per ton.—W.

NEW YORK PRODUCE

New York City, Dec. 10, 1917.

Butter market remains unchanged. Eggs are lower. Potatoes remain about as last week. Apples are somewhat higher.

Butter.—Creamery, extras (92 score), per pound, 48½@49c; higher score, 49@50c; thirds to firsts, 38@48c; state dairy, 36@47c; ladles, 31@34c.

Cheese.—Flats, specials, 24½c; do., colored, 23½c; prime, 22½@23c.

Eggs.—Fresh gathered extras, 58@59c; extra firsts, 56@57c; nearly white, fine to fancy, 65@68c; ordinary to good, 55@65c; browns, 60@62c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 38@40c; old roosters, 21c; squabs, $2.75@6.50 per dozen. Spring ducks, per lb., 22@23c; turkeys, fresh killed, 34c.

Vegetables and Greens.—Beets, bbl., $2.25@3. Onions, per 100-lb. bag, $2.25@3. Potatoes, Jersey, $2.25@3.50 bag; state and western, $2.50@4.25 per bbl. Carrots, $1.50@2 bbl.

Apples.—Wealthy, $3.50@5 bbl; McIntosh, $4@8; Jonathan, $4@7; York Imperial, $4@5; Twenty Ounce, $4@6; King, $4@5.50; Baldwin, $3.50@5.25.

LANCASTER LIVE STOCK

Lancaster, Pa., Dec. 10th, 1917.
(Reported by McClain Commission Co.)

The receipts of cattle for today's market were 124 cars, as compared with 156 cars last Monday, and 75 cars the corresponding Monday last year. Today's supply came from Chicago, 43 cars; Virginia, 42; Buffalo, 14; Pennsylvania, 12; Indianapolis, 7; Pittsburgh, 3; Maryland, 3.

Nobody looked for more than 75 or 80 cars, and the supply was far beyond expectations. The extremely cold weather and the congestion in freight traffic added further to the confusion. Buyers were scarce, and the market was "frozen up" in more ways than one. The stuff all cost higher at Western markets and salesmen naturally tried to get the advance, but in this way they "fell down" and the best they could do was to get prices about steady with those of last week for similar kinds. Late in the afternoon there was some activity in the trade for cattle that had weight and kill to them, prompted by inquiries from New York and other points East which inquiries no doubt grew out of the embargo placed today at Chicago by the Federal Freight Distributor on all shipments on all roads running East from the "Windy City."

Best beef cattle on sale were a load of Virginias that had some quality, good flesh and some fat. They weighed 1,220 lbs., and the price was $12.50. Another carload of Virginias of nice quality weighed 1,135 lbs. and sold at $12.25. Another carload of a fair kind weighed 1,060 lbs. and sold at $11.65 and two carloads that weighed 1,050 lbs. sold at $11.45. One carload of steers that came from Chicago weighed 1,250 lbs. and sold at $12.50. Two carloads that weighed 1,330 lbs. that had very good flesh, but not much ripeness, sold at $12.15. Several carloads of plain kind of Virginia killers weighing 1,000 to 1,100 lbs. sold at $10 to $10.60. Virginia heifers were scarce. The best heifers on sale for slaughtering purposes came from Western markets, were fair killers, weighed 950 lbs. and sold at $10.40. Several carloads of the same kind weighing 900 lbs. sold at $10 to $10.20, and a carload that were a little bit "cowey" weighed 980 lbs. and sold at $9.80.

There was no activity in the feeder trade. Eastern Pennsylvania farmers, judging from their absence from the market today, were either "frozen up", or are filled up. There was not a big supply of feeder stuff on sale, and those who had them to sell, by reason of increase in cost, wanted to get more price for them than similar kinds sold for last week. This was not possible, and at the close of business, quite a goodly number of a pretty useful kind of feeders were munching hay at two cents per lb. that ought to have been "cashed in" to more comfortable homes. The crop of Canadians was much diminished, and the kind corresponded in quality. One bunch of 20 head of a pretty good kind weighing 930 lbs. was taken by a Lancaster County farmer at 11 cents per lb. 20 fancy Canadian calves weighing 500 lbs. sold at 13 cents. One carload of a rather plain kind sold at 10 cents per lb., and another carload that looked as if they belonged in Tennessee rather than in the Dominion of King George changed hands at 8½ cents per lb. Of the feeders that came from Western markets, was one car of nice roan Durhams weighing 1,060 lbs, sold at $11.50, and one bunch of 15 head of red Durhams that came from Iowa, weighed 840 lbs. and sold at $11.25. A good many bunches of a plain kind weighing 900 lbs. sold at $10 to 10.25, and a few carloads of "Kikes" weighing 800 lbs., sold at $8.25 to 8.65.

Local salesmen are very much disheartened and find it almost impossible to do business on anything like a satisfactory basis in the face of the existing freight congestion, and slow deliveries of live stock. It is a usual thing these days for shipments to arrive anywhere from 48 to 72 hours late. Naturally, this condition of affairs upsets the calculations of both sellers and buyers alike, and works to the disadvantage of both.

PHILADELPHIA LIVE STOCK

Philadelphia, Dec. 10, 1917.

Beef Cattle.—Demand showed some improvement and values generally were firmly maintained. Inquiry still continued to be mostly for the modern and low grades, altho values of the best grades were without material change.

Steers.—Best, $12.50@13.75; fair to good, $11@12.50; common, $10@11; bulls, @9.50; extra choice higher; cows, fat, per lb., 7@9c; extra choice higher; medium, per lb., 6@7c; ordinary, per lb 4½@6c; calves, exceptional lots, $16@16.50; good to choice, $13@14.50; medium, $10@11.50; common, $7.50@8.50; Tennessee and southern, $8@15.

Hogs.—Western prices were showing few fluctuations and values here were steadily maintained with a fair demand that kept supplies under pretty good control. Quotations for the best western $19@19.50.

City Dressed Stock.—The general market ruled steady with demand showing some improvement. Top grade steers were showing a little more strength.

Steers, 15@21c; heifers, 14@18c; cows 10@17c; calves, 22@23c; southern and barnyards, 16@18c country dressed, 19c; do, extras, 20c; sheep, 21c; do, extras, 22c; lambs, 26c; do, extras, 27c; hogs, 24c.

NEW YORK HAY AND GRAIN

New York City, Dec. 10, 1917.

Feed.—Strong prices featured the market on Saturday and as a rule the list, covering both Western and city, was well maintained at the high levels of the season. In the Northwest the demand was reported as good and consumers are trying to place orders covering requirements for both spot and future delivery. Most of the mills are sold ahead and the offerings are limited. City grades are in demand, but interests heer are up against the bad traffic situation, which makes delivery to outside points uncertain. It is understood that exporters are in the market for round lots. Quoted: Western spring in 100-pound sacks, $46.50; standard middlings, $46.50; flour in 100-pound sacks to arrive, $53; red dog to arrive in 100-pound sacks, $63. City feed, bulk bran, $45; 100-pound sacks, $46; heavy feed, bulk, $48; 100-pound sacks, $49; red dog, $64; flour, $63. Linseed oil meal, $57 per ton.

Hay and Straw.—Market still unsettled and irregular. At some terminals high grades are moving a little better, and rare sales again up to $33 for extra choice timothy. But for average best $30@31 is the prevailing range, and prices on lower grades are weak, the market on these descriptions being without a shade of improvement.

Corn.—$2.20 per bushel.

Oats.—No. 2 white, 86½c; No. 3, 86c.

Rye.—$1.90.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Dec. 10, 1917.

Baled Hay and Straw.—Receipts, 216 tons of hay and 6 cars of straw. The market ruled firm, with demand absorbing the offerings of hay at firm prices. Straw also ruled firm, with demand fair, with straight particularly scarce and wanted. Quotations:

Timothy hay, according to location.—No. 1, large bales, $28@28.50; No. 1, small bales, $28@28.50; No. 2, $26@27; No. 3, $23@24.50; sample, $19@21; no grade, $15@17.

Clover-mixed Hay—Light mixed, $26@27; No. 1 do, $25@26; No. 2 do, light mixed, $22@23; straw, No. 1 straight rye, $17.50; No. 2 do, $16.50@17; No. 1 tangled rye, $16@16.50; No. 2 do, $15@15.50; No. 1 wheat straw, $14.50@$15; No. 2 do, $13.50@14; No. 1 oat straw, $14.50@15; No. 2 do, $13.50@14.

Bran was firm and higher, due to light spot supplies, but buyers were operating only for immediate needs.

Soft winter bran, in 100-lb. sacks, per ton, $45.50@46; spring bran, in 100-lb. sacks, per ton, $45@45.50.

Wheat.—No. 2, red, $2.25.

Corn.—Normal.

Oats.—No. 2, 84@84½c; standard white, 83½@84c.

Rye.—Nearby, as to quality, $1.75@1.80.

PHILADELPHIA DAIRY MARKET

Philadelphia, Dec. 10, 1917.

Butter.—Light offerings and stronger outside advices influenced an advance of 1c in the better grades of both solid-packed creamery and prints. Fine solid brought outside rates without difficulty, while the under grades were quiet at inside figures. Fancy prints were scarce and firm at the advance above noted, but unattractive qualities were hard to move and somewhat irregular in value.

Western, fresh solid-packed creamery, extra, 48c; higher-scoring goods, 49@50c; extra firsts, 47c; firsts, 44@46c; seconds, 41@43c; sweet creamery, extra, 49c; undergrades, 46@48c; held creamery, good to choice, 43@45c; nearby prints, fancy, 52c; average extra, 49@51c; firsts, 45@48c; seconds, 43c; special brands jobbing at 35@55c.

Cheese.—The market was quiet and unchanged with ample offerings.

New York, full cream fancy. June, 25c; specials higher; do, do, do, fresh made, best, 22¾@23c; do, do, do, fair to good, 22@22½c.

NEW YORK MILK MARKET

New York City, N. Y., Dec. 10, 1917.

The market is evenly balanced with no manufacturing. The investigation of the cost of production and distribution by the Hoover Milk Commission is still in progress, but certain dealers are figuring that the December rates will be carried thru until March 1. The League rates for Grade B (barn score 55) to the producer in the first district are $3.10 cwt. for three percent milk; $3.34, or approximately 7.1 cents a quart for 3.6 percent; and $3.50 for 4 percent.

Receipts of milk and cream in 40-qt. cans for week ending Dec. 8 were as follows:

Railroad	Milk	Cream
Erie	40,492	1,340
Susquehanna	5,679	42
West Shore	9,475	890
Lackawanna	53,298	1,396
N. Y. Central (long haul) including Rutland	96,902	1,712
Ontario	37,712	1,610
Lehigh Valley	40,728	431
New Haven	3,790	5
Pennsylvania	8,050	90
Other Sources	5,635	175
Totals	301,761	7,991
Same Week Last Year	323,017	8,353

TOBACCO MARKET

Tobacco sales continued more or less active during the week, the main limitation being the fact that a very large percentage of this crop has now been contracted. However, buyers are still active and no location is too remote or no road too bad to be traversed. At present, practically nothing is selling at less than a crop average of $20 per cwt. and sales at around $30 are not uncommon. Most of those who have not sold prefer to wait until thru stripping and to take the chances of further advances. Following are illustrative prices for crop lots but it is noted that more sales than usual have been made at one price for all grades. Several crops sold at $28, $15, $12 and $6 per cwt. Others at $27, $16, $12 and $5. Stripping is now being pushed and with a continuation of favorable weather considerable quantities will be ready for delivery before the close of the month. With the exception of considerable hail and frost damage the new crop is unusually desirable as shown by strippings. Illustrating the returns from the present product it is noted that many farmers are planning to meet obligations which they had intended to defer for a year or two, and many who have been obligated for a long time will go entirely out of debt. A feature of the market situation was a movement toward the purchase of the Ohio cigar tobacco crop, the same being practically unsold to date. For a time it was attempted to contract at an average price of about $20 per cwt., but so few contracts were signed that an increase to $25 per cwt. was made, resulting in many sales and it is estimated that about 50 percent of the products has now been contracted.—H. E. Tweed, Dec. 10, 1917.

NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

SYNOPSIS OF PREVIOUS CHAPTERS

Henry de Spain is the Manager of the stage line running between the rich mines of the Spanish Sinks and the town of Sleepy Cat. He immediately gets into trouble with members of the Morgan Gang, with headquarters at Morgan's Gap. DeSpain in doing his duty as Manager is brought into two fights with Morgan's men and is soon a hunted man. In the meantime he falls in love with Nan Morgan, niece of the leader of the gang. After a desperate fight, in which he wounds Gale Morgan and is himself wounded, he is carried by his horse to the base of Music Mountain, at Morgan's Gap. Here he is discovered by Nan, and nursed back to life. She regards him as an enemy of the family, but takes pity on him in his desperate condition. He has just told her the story of his life and the conditions that brought him into conflict with her family.

CHAPTER XV

Crossing a Deep River

A grizzly bear hidden among the haystacks back of the corral would have given Nan much less anxiety than de Spain secreted in the heart of the Morgan stronghold. But as she hurried home, fearful of encountering an early rider who should ask questions, it seemed as if she might, indeed, find some way of getting rid of the troublesome foe without having it on her conscience that she had starved a wounded man to death, or that he had shot some one of her people in getting away.

Her troubled speculations were reduced now almost to wondering when de Spain would leave, and disinclined though she felt to further parley, she believed he would go the sooner if she were to consent to see him again. Everything he had said to her seemed to unsettle her mind and to imperil impressions concerning him that she felt it dangerous, or at least treasonable, to part with. To believe anything but the worst of a man whom she heard cursed and abused continually by her uncles, cousins, and their associates and retainers, seemed a monstrous thing—and every effort de Spain made to dislodge her prejudices called for fresh distrust on her part. What had most shaken her convictions—and it would come back to her in spite of everything she could do to keep it out of her mind—was the recollection of the murder of his father, the tragic death of his mother. As for the facts of his story, somehow she never thought of questioning them. The seal of its dreadful truth he carried on his face.

That day Nan washed her hair. On the second day—because there was no good reason for it—she found herself deciding conscientiously to see de Spain for the last time, and toward sunset. This was about the time he had suggested, but it really seemed, after long thought, the best time. She began dressing early for her trip, and with constantly recurring dissatisfaction with her wardrobe—picking the best of her limited stock of silk stockings, choosing the freshest of her few pairs of tan boots. All of her riding-skirts looked shabby as she fretfully inspected them; but Bonita pressed out the newest one for the hurried occasion, while Nan used the interval, with more than usual care, on her troublsome hair—never less tractable, it seemed, in her life. Nothing, in truth, in her apeparance satisfied her, and she was obliged at last to turn from her glass with the hateful sigh that it made no difference anyway.

De Spain was sitting with his back against a rock, and his knees drawn up, leaning his head on his right hand and resting his elbow on the knee. His left arm hung down over his left knee, and the look on his face was one of reflection and irresolution rather than of action and decision. But he looked so restored after his brief period of nourishment that Nan, when she stepped up on the ledge at sunset, would not have known the wreck she had seen in the same place the week before.

His heart jumped at the sight of her young face, and her clear, courageous eyes surveyed him questioningly as he scrambled to his feet.

"I am going to tramp out of here tomorrow night," he confided to her after his thanks. "It is Saturday; a lot of your men will be in Sleepy Cat—and they won't all be very keen-sighted on their way back. I can get a good start outside before daylight."

She heard him with relief. "What will you do then?" she asked.

"Hide. Watch every chance to crawl a mile nearer Calabasas. I can't walk much, but I ought to make it by Sunday night or Monday morning. I may see a friend—perhaps I may see the other fellow's friend, and with my lone cartridge I may be able to bluff him out of a horse," he suggested, gazing at the crimson tie that flowed from Nan's open neck. "By the way," he added, his glance resting on her right side as he noticed the absence of her holster, "where is your protector today?" She made no answer. "Fine form," he said coldly, "to come unarmed on an errand of mercy to a desperado."

Nan flushed with vexation. "I came away in such a hurry that I forgot it," she replied lamely.

"A forget might cost you your life."

"Perhaps you've forgotten you left a cartridge belt behind once yourself," she returned swiftly. The retort startled him. How could she know? But he would not, at first, ask a question, though her eyes told him she knew what she was talking about. They looked at each other a moment in silence.

De Spain, convicted, finally laid his fingers over the butt of his empty revolver. "How did you find that out?"

She tossed her head. They were standing only a few feet apart, de Spain supporting himself now with his left hand high up against the wall; Nan, with her shoulder lightly against it; both had become quizzical. "Other people forget, too, then," was all she said, fingering the loosened tie as the breeze from the west blew it toward her shoulder.

"No," he protested, "I didn't forget; not that time. I went over to the joint to get a cup of coffee and expected to be back within five minutes, never dreaming of walking into a bear trap." He drew his revolver and, breaking it negligently, took out the single cartridge. "Take this." He held the cartridge in his left hand and took two halting steps toward her—"since you are unarmed, I will be, too. Not that this puts us on an even footing. I don't mean that. Nothing would. You would be too much for me in any kind of a contest, armed or unarmed."

"What do you mean?" she demanded to hide her confusion. And she saw that each step he took cost pain, skilfully concealed.

"I mean," he said, "you are to take this cartridge as a remembrance of my forgetfulness and your adventure."

She drew back. "I don't want it."

"Take it."

He was persistent. She allowed him to drop the loaded shell into her hand. "Now," he continued, replacing his gun, "if I encounter any of your people in an attempt to break through a line, and somebody gets killed, you will know, when you hear the story, that this time, at least, I didn't 'start it.'"

"All the same—" She hesitated. "I don't think that's exactly right. You need not shoot my people, even if you meet them. There are plenty of others you might meet——"

He put her objection aside, enjoying being so near to her and happy that she made no retreat. "My reputation," he insisted, "has suffered a little at Morgan's Gap. I mean that at least one who makes her home under Music Mountain shall know differently of me. What's that?" he heard a sound. "Listen!"

The two looking at each other strained their ears to hear more thru the rush of the falling water. "Some one is coming," said de Spain. Nan ran lightly to where she could peep over the ledge. Hardly pausing as she glanced down, she stepped quickly back. "I'll go right on up the mountain to the azalea fields," she said hastily.

He nodded. "I'll hide. Stop. If you are questioned, you don't know I'm here. You must say so for your own sake, not for mine."

She was gone before he had finished. De Spain drew quickly back to where he could secrete himself. In another moment he heard heavy footsteps where he had stood with his visitor. But the footsteps crossed the ledge and their sound died away up the path Nan had taken. De Spain could not see the intruder. It was impossible to conjecture who he was or what was his errand, and de Spain could only await whatever should develop. He waited several minutes before he heard any sign of life above. Then snatches of two voices began to reach him. He could distinguish Nan's voice and at intervals the heavier tones of a man. The two were descending. In a few moments they reached the ledge, and de Spain, near at hand, could hear every word.

"Hold on a minute," said the man roughly. His voice was heavy and his utterances harsh.

"I must get home," objected Nan.

"Hold on, I tell you," returned her companion. De Spain could not see, but he began already to feel the scene. "I want to talk to you."

"We can talk going down," parried Nan.

De Spain heard her hurried footfalls. "No, you don't," retorted her companion, evidently cutting off her retreat.

"Gale Morgan!" There was a blaze in Nan's sharp exclamation. "What do you mean?"

"I mean that you and I are going to have this out before we leave this ledge."

"I tell you, I want to go home."

"You'll go home when I say so."

"How dare you stop me!"

"I'll show you what I dare, young lady. You've been backing and filling with me for two years. Now I want to know what you're going to do."

"Gale! Won't you have a little sense? Come along home with me, like a good fellow, and I'll talk things over with you just as long as you like."

"You'll talk things over with me right here, and as long as I like," he retorted savagely. "Every time I ask you to marry me you've got some new excuse."

"Its shameful for you to act in this way, Gale." She spoke low and rapidly to her enraged suitor. De Spain alone knew it was to keep her humiliation from his own ears, and he made no effort to follow her quick, pleading words. The moment was embarrasing for two of the three involved. But nothing that Nan could say would win from her cousin any reprieve.

"When you came back from school I told Duke I was going to marry you. He said, all right," persisted her cousin stubbornly.

"Gale Morgan, what Uncle Duke said or didn't say has nothing whatever to do with my consent."

"I told you I was going to marry you."

"Does that bind me to get married, when I don't want to?"

"You said you'd marry me."

Nan exploded: "I never said so in this world." Her voice shook with indignation. "You know that's a downright falsehood."

"You said you didn't care for anybody else," he fairly bellowed. "Now I want to know whether you'll marry me if I take you over to Sleepy Cat tomorrow?"

"No!" Nan flung out her answer, reckless of consequence. "I'll never marry you. Let me go home."

"You'll go home when I get thru with you. You've fooled me long enough."

Her blood froze at the look in his face. "How dare you!" she gasped. "Get out of my way!"

"You little vixen!" He sprang forward and caught her by the wrist. "I'll take the kinks out of you. You won't marry me your way, now you'll marry me mine."

She fought like a tigress. He dragged her struggling into his arms. But above her half-stifled cries and his grunting laugh, Morgan heard a sharp voice: "Take you hands off that girl!"

Whirling, with Nan in his savage arms, the half-drunken mountaineer saw de Spain ten feet away, his right hand resting on the grip of his revolver. Stunned, but sobered by mortal danger, Morgan greeted his enemy with an oath. "Stand away from that girl!" repeated de Spain harshly, backing the words with a step forward. Morgan's grasp relaxed. Nan, jerking away, looked at de Spain and instantly stepped in front of her cousin, on whom de Spain seemed about to draw.

"What are you doing here?" demanded Morgan, with an enraged oath.

"I left some business with you the other day at Calabasas half finished," said de Spain. "I'm here this afternoon to clean it up. Get away from that girl!"

His manner frightened even Nan. The quick step to the side and back—poising himself like a fencer—his revolver restrained a moment in its sheath by an eager right arm, as if at any instant it might leap into deadly play.

Shocked with new fear, Nan hesitated. If it was play, it was too realistic for the nerves of even a mountain girl. De Spain's angry face and burning eyes photographed themselves on her memory from that moment. But whatever he meant, she had her part to do. She backed, with arms spread low at her sides, directly against her cousin. "You shan't fight," she cried at de Spain.

"Stand away from that man!" retorted de Spain sternly.

"You shan't kill my cousin. What do you mean? What are you doing here? Leave us!"

"Get away, Nan, I tell you. I'll finish him," cried Morgan, punctuating his word with an oath.

She whirled and caught her cousin in her arms. "He will shoot us both if you fire. Take me away, Gale. You coward," she exclaimed, whirling again with trembling tones on de Spain, "would you kill a woman?"

De Spain saw the danger was past. It needed hardly an instant to show him that Morgan had lost stomach for a fight. He talked wrathfully, but he made no motion to draw. "I see I've got to chase you into a fight," said de Spain contemptuously, and started gingerly to circle the hesitating cousin. Nan, in her excitement, ran directly toward the enemy, as if to cut off his movement.

"Don't you dare put me in danger," she cried, facing de Spain threateningly. "Don't you dare fight my cousin here."

"Stand away from me," hammered de Spain, eying Morgan steadily.

"He is wounded now," stormed Nan, so fast she could hardly frame the words. "You shan't kill him. If you are a man, don't shoot a wounded man and a woman. You shan't shoot. Gale! Protect yourself!" Whirling to face her cousin, she took the chance to back directly against de Spain. Both hands were spread open and partly behind her, the palms up, as if to check him. In the instant that she and de Spain were in contact he realized, rather than saw—for his eyes never released Morgan's eyes—what she was frantically slipping to him—the loaded cartridge. It was done in a flash, and she was running from him again. Her warm fingers had swept across his own. She had returned to him, voluntarily, his slender chance for life. But in doing it she had challenged him to a new and overwhelming interest in life itself. And again, in front of her cousin, she was crying out anew against the shedding of blood.

"I came up here to fight a man. I don't fight women," muttered de Spain, maintaining the deceit and regarding both with an unpromising visage. Then to Morgan: "I'll talk to you later. But you've got to fight in ten seconds."

"Take me away, Gale," cried Nan. "Leave him here—take me home! Take me home!"

She caught her cousin's arm. "Stay right where you are," shouted Morgan, pointing at de Spain, and following Nan as she pulled him along. "When I come back, I'll give you what you're looking for."

"Bring your friends," said de Spain tauntingly. "I'll accommodate four more of you. Stop!" With one hand still on his revolver he pointed the way. "Go down that trail first, Morgan. Stay where you are, girl, till he gets down that hill. You won't pot me over her shoulder for a while yet. Move!"

Morgan took the path sullenly, de Spain covering every step he took. Behind de Spain Nan stood waiting for her cousin to get beyond ear shot. "What," she whispered hurriedly to de Spain, "will you do?"

Covering Morgan, who could whirl on him at any turn in the descent, de Spain could not look at her in answering. "Looks pretty rocky, doesn't it?"

"He will start the whole Gap as soon as he gets to his horse."

He looked at the darkening sky. "They won't be very active on the job before morning."

Morgan was at a safe distance. De Spain turned to Nan. He tried to speak out to her, but she sternly smothered his every effort. Her cheeks were on fire, she breathed fast, her eyes burned.

"It looks," muttered de Spain, "as if I should have to climb Music Mountain to make a get-away."

"There is no good place to hide anywhere above here," said Nan, regarding him intently.

"Why look so hard at me, then?" he asked. "If this is the last of it, I can take it here with our one lone cartridge."

Her eyes were bent on him as if they would pierce him through. "If I save your life—" still breathing fast, she hesitated for words—"you won't trick me—ever—will you?"

Steadily returning her appealing gaze, de Spain answered with deliberation. "Don't ever give me a chance to trick you, Nan."

"What do you mean?" she demanded, fear and distrust burning in her tone.

"My life," he said slowly, "isn't worth it.

"You know—" He could see her resolute underlip, pink with fresh young blood, quiver with intensity of feeling as she faltered. "You know what every man says of every girl—foolish, trustful, easy to deceive—everything like that."

"May God wither my tongue before ever it speaks to deceive you, Nan."

"A while ago you frightened me so——"

"Frightened you! Great God!" He stepped closer and looked straight down into her eyes. "If you had raised one finger when I was bluffing that fellow, I'd have calmed down and eaten out of your little hand, by the hour!"

"There's not a moment to lose," she said swiftly. "Listen: A trail around the mountain leads out of the Gap, straight across the face of El Capitan."

"I can make it."

"Listen! It is terribly dangerous——"

"Whatever it is, its a concrete boulevard to a man in my fix."

"It is a half a mile—only inches wide in places—up and down—loose rock——"

"Some trail!"

"If you slip its a thousand feet—"

"A hundred would be more than plenty."

"A good climber can do it. I have done it. I'd even go with you, if I could."

"Why?"

She shook her head angrily at what he dared show in his eyes. "Oh, keep still, listen!"

"I know you'd go, Nan," he declared unperturbed. "But believe me, I never would let you."

"I can't go, because to do any good I must meet you with a horse outside."

He only looked silently at her, and she turned her eyes from his gaze. "See," she said, taking him eagerly to the back ledge and pointing, "follow that trail, the one to the east—you can't get lost; you can reach El Capitan before dark—it is very close. Creep carefully across El Capitan on that narrow trail, and on the other side there is a wide one clear down the road—oh, do be careful on El Capitan."

"I'll be careful."

"I must watch my chance to get away from the corral with a horse. If I fail it will be because I am locked up at home, and you must hide and do the best you can. How much they will surmise of this, I don't know."

"Go now, this minute," he said, restraining his words. "If you don't come, I shall know why."

She turned without speaking and fearless as a chamois, ran down the rocks. De Spain, losing not a moment, hobbled rapidly up along the granite-walled passage that led the way to his chance for life.

CHAPTER XVI

A Venture In the Dark

Pushing his way hastily forward when he could make haste; crawling slowly on his hands and knees when held by opposing rock; feeling for narrow footholds among loose and treacherous fragments; flattening himself like a leech against the face of the precipice when the narrowing ledge left him only inches under foot; clinging with torn hands to every favoring crevice, and pausing for fresh strength, when the peril was extreme, de Spain dragged his injured foot across the sheer face of El Capitan in the last shadows of the day's failing light.

Half-way across, he stopped to look down. Far below lay the valley shrouded in night. Where he stood, stars, already bright, lighted the peaks. But nowhere in the depths could he see any signs of life. Spent by his effort, de Spain reached the rendezvous Nan had indicated, as nearly as the stars would tell him, by ten o'clock. He fell asleep in the aspen grove. Horsemen passing not a hundred yards away roused him.

He could not tell how many or who they were, but from the sounds he judged they were riding into the Gap. The moon was not yet up, so he knew it was not much after midnight. The ground was very cold, and he crawled farther on toward the road along which Nan had said he might look for her. It was only after a long and doubtful hour that he heard the muffled footfalls of a horse. He stood concealed among the smaller trees until he could distinguish the outlines of the animal, and his eye caught the figure of the rider.

De Spain stepped out of the trees, and moving toward Nan, caught her hand and helped her to the ground.

She enjoined silence, and led the horse into the little grove. Stopping well within it, she stopped and began rearranging the mufflers on the hoofs.

"I'm afraid I'm too late," she said. "How long have you been nere?" She faced de Spain with one hand on the pony's shoulder.

Uncle Amos Says.—"I see that the daily paper proposes to have the farmers go into the coal mines for the next four months, seein' their work is 'all done'. It 'nigh made me mad after puttin' in 14-hour days all summer, and a lot of hustling still to do. But what is the use gettin' mad. We'll learn that we have enough to do without bossin' others before this war is over. 'Sides, splittin' up these old logs helps some in savin' coal and temper."

"How could you get here at all?" he asked, reaching clandestinely for her other hand.

"I got terribly frightened thinking of you trying El Capitan. Did you have any falls?"

"You see I'm here—I've even slept since You! How could you get here at all with a horse?"

"If I'm not too late," she murmured, drawing her hand away.

"I've loads of time, its not one o'clock."

"They are hiding on both trails outside watching for you—and the moon will be up—" She seemed very anxious. De Spain made light of her fears. "I'll get past them—I've got to, Nan. Don't give it a thought."

"Every corner is watched," she repeated anxiously.

"But I tell you I'll dodge them, Nan."

"They have rifles."

"They won't get a chance to use them on me."

"I don't know what you'll think of me—" He heard the troubled note in her voice.

"What do you mean?"

She began to unbutton her jacket. Throwing back the revers she felt inside around her waist, unfastened after a moment and drew forth a leather strap. She laid it in de Spain's hands. "This is yours," she said in a whisper.

He felt it questioningly, hurriedly, then with amazement. "Not a cartridge-belt!" he exclaimed.

"Its your own."

"Where—?" She made no answer. "Where did you get it, Nan?" he whispered hurriedly.

"Where you left it."

"How?" She was silent. "When?"

"Tonight."

"Have you been to Calabasas and back tonight?"

"Everybody but Sassoon is in the chase," she replied uneasily—as if not knowing what to say, or how to say it. "They said you should never leave the gap alive—they are ready with traps everywhere. I didn't know what to do, I couldn't bear—after what—you did for me tonight—to think of your being shot down like a dog, when you were only trying to get away."

"I wouldn't have had you take a ride like that for forty belts!"

"McAlpin showed it to me the last time I was at the stage barn, hanging where you left it." He strapped the cartridges around him.

"You should never have taken that ride for it. But since you have—" He had drawn his revolver from his waistband. He broke it now and held it out. "Load it for me, Nan."

"What do you mean?"

"Put four more cartridges in it yourself. Except for your cartridge, the gun is empty. When you do that you will know none of them ever will be used against your own except to protect my life. And if you have any among them whose life ought to come ahead of mine—name him, or them, now. Do as I tell you—load the gun."

He took hold of her hands and, in spite of her refusals, made her do his will. He guided her hand to draw the cartridges, one after another, from his belt, and waited for her to slip them in the darkness into the empty cylinder, to close the breech, and to hand the gun back.

"Now, Nan," he said, "you know me. You may yet have doubts—they will all die. You will hear many stories about me—but you will say: 'I put the cartridges in his revolver with my own hands, and I know he won't abuse the means of defense I gave him myself.' There can never be any real doubts or misunderstandings between us again, Nan, if you'll forgive me for making a fool of myself when I met you at Tenison's. I didn't dream you were desperate about the way your uncle was playing; I pieced it all together afterward." He waited for her to speak, but she remained silent.

"You have given me my life, my defense," he continued, passing from a subject that he perceived was better left untouched. "Who is nearest and dearest to you at home?"

"My Uncle Duke."

"Then I never will raise a hand against your Uncle Duke. And this man, tonight—this cousin—Gale? Nan, what is that man?"

"I hate him."

"Thank God! So do I!"

"But he is a cousin."

"Then I suppose he must be one of mine."

"Unless he tries to kill you."

"He won't be very long in trying that. And now, what about yourself? What have you got to defend yourself against him, and against every other drunken man?"

She laid her own pistol without a word in de Spain's hand. He felt it, opened, closed, and gave it back. "That's a good defender—when its in reach. When its at home its a poor one."

"It will never be at home again except when I am."

"Shall I tell you a secret?"

"What is it?" asked Nan unsuspectingly.

"We are engaged to be married." She sprang from him like a deer. "Its a dead secret," he said gravely; "nobody knows it yet—not even you."

"You need never talk again like that if you want to be friends with me," she said indignantly. "I hate it."

"Hate it if you will; its so. And it began when you handed me that little bit of lead and brass on the mountain tonight, to defend your life and mine."

"I'll hate you if you persecute me the way Gale does. The moon is almost up. You must go; and now I am going home," she said with decision.

"Don't go for a minute yet, Nan," he pleaded. "Think how long it will be before I can ever see you again!"

"You may never see anybody again if you don't realize your danger tonight. Can you ride with a hackmore?"

"Like a dream."

"I didn't dare bring anything else."

"You haven't told me," he persisted, "how you got away at all." They had walked out of the trees. He looked reluctantly at the east. "Tell me and I'll go," he promised.

"After I went up to my room I waited till the house was all quiet. Then I started for Calabasas. When I came back I got up to my room without being seen, and sat at the window a long time. I waited till all the men stopped riding past. Then I climbed through the window and down the kitchen roof, and let myself down to the ground, and I hid on the porch and slipped over to the horse barns and found a hackmore, and went down to the corral and hunted around until I found this little pinto—she's the best to ride bareback."

(To Be Continued.)

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Live Stock

RATIONS FOR BREEDING EWES

Feeding breeding flocks during winter depends much upon the season. Many flocks receive little feed other than that furnished by the bluegrass pastures, the wheat fields and the meadows, until the winter snow cuts off this source of feed. During the winter months clover and alfalfa are the standard roughages for pregnant ewes. The high prices of these hays in recent years have caused the use of other cheaper rough feeds to replace part of the more expensive hays Corn, silage and corn stover are the most common rough feeds used to replace clover or alfalfa hay. At the Missouri Experiment Station feeding trials were conducted to compare the different roughages for breeding ewes. A carload of Western Colorado ewes was purchased in the fall and kept on bluegrass pasture until December 9. The rams were left with ewes from the middle of September to the first of December. The ewes were divided into eight lots of 17 ewes each. The various lots were kept as uniform in size, condition and quality as possible.

A ration of one-third pound of grain and 2 pounds of clover hay with all the corn stover the ewes would eat was compared with a ration of an equal amount of grain and 3 pounds of clover hay per head per day. In this case the corn stover was substituted satisfactorily for one-third of clover hay. However, in the lots where grain was not fed, the substituting of one-third the clover hay with corn stover was not successful. The lambs in the hay-stover lot were not as strong and did not make as good gains as those on clover hay alone. A ration of corn stover as the only rough feed with one-half pound of grain per head per day was fairly satisfactory, but not as satisfactory as in lots where one-third pound of grain and 2 pounds of hay were fed. However, corn stover proved to be superior roughage to timothy hay when fed with one-half pound of grain per head per day.

The feeding of corn silage is sometimes attended with ill results. In many instances the trouble with silage has been attributed to mould, or to the acid in silage that has not been properly put up. Sheep seem to be more susceptible to the poisons of mouldy silage than cattle. In these trials the silage proved to be superior to the corn stover. Both feeds were fed in combination with grain and clover hay. In all cases the silage proved to be the better feed of the two. In trying to reduce the cost by replacing a part of the clover hay with silage, a ration of 1.6 pounds of corn silage and 1.9 pounds of clover hay was fed. This ration gave as satisfactory results as clover hay alone. The average daily amount of hay consumed per ewe was three and one-quarter pounds. The ration containing ⅓ pound of grain and 2 pounds clover hay and 1.8 pounds silage proved as satisfactory as a ration of an equal amount of grain and 3 pounds of clover hay. Silage in these lots was substituted for practically one-half the clover hay.

It required practically 2 pounds of silage to replace one pound of clover hay. However, rating the silage at $5 a ton it is in most cases an economical feed to use in connection with clover hay. A ration of three-tenths pound of grain and 3½ pounds of silage, which was all the ewes would eat, proved superior to one of four-tenths pound of grain with all of the stover that the ewes would eat.

The important objection to the feeding of silage by the average farmer is because the small amount that ewes will eat makes it necessary to have quite a large flock in order to utilize enough of the silage per day to keep it from spoiling. It will require about 500 ewes to utilize enough silage fed from a 14-foot silo, if it is not fed to other livestock. The grain fed in all cases was a mixture of 6 parts shelled corn, 3 parts wheat bran and 1 part linseed oil meal by weight.

The measure of efficiency of the various rations was weight, condition and thrift of the lambs at birth and thirty days after birth, and the condition and thrift of the ewes and their ability to suckle their lambs.

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CORN AND MILK FOR HOGS

That poor results in feeding corn alone to young pigs is due to the ration was proved by one experiment reported in Bulletin 316 just issued by the Ohio Experiment Station at Wooster. Two pigs weighing 43 pounds gained a third of a pound daily for 15 weeks when fed only corn. Then for eight weeks on corn and skimmilk they gained one and three-fifths pounds daily.

Nearly seven pounds of corn was needed to produce a pound of gain in live weight when only this feed was given to the pigs. Only two pounds of corn was fed, along with 11¼ pounds of skimmilk, for a pound of gain during the second part of the experiment. Feed cost 8.56 cents per pound of gain from corn alone, and only 4.88 cents from the corn and skimmilk ration.

Tankage and linseed oilmeal have also proved profitable to feed in combination with corn for hogs. Relative prices, feed required for a unit of gain, and rate of gain that may be expected, the bulletin points out, will determine which supplement to use.

VETERINARY

Chronic Indigestion.—We have a cow due to come fresh the last week in February. Her milk is strong and off flavor. It is very difficult to churn the cream into butter, especially for the past three weeks. This cow is fat, but she will eat horse manure whenever she can manage to get to it. She is fed clover or mixed hay, all she will eat, also corn stover which has been cut and moistened with one pint each of bran and corn meal added. She also gets a pint of commercial at the same time. At the noon hour she gets all the corn stover dry that she will eat. What can we do that will make her milk fit to use? She gives only about three quarts a day. Is she not properly fed or what is the matter? H. R. J., Slatington, Pa.—Your cow should be dried up as soon as possible. During the later period of pregnancy the milk of many cows is inclined to change, becoming strong and giving off a disagreeable odor and this kind of milk never makes good butter. Mix together equal parts air-slacked lime, salt, ginger, gentian and powdered wood charcoal. Give her two tablespoonfuls at a dose in ground feed, twice a day.

Thin Four-year old Mare.—I have a four-year-old mare that keeps low in flesh. She seems to feel well but fails to lay on any flesh. She is fed four quarts of oats, three times a day, with a small quantity of oil meal added. S. L., Cogan House, Pa.—First of all you had better examine her mouth. One or more of the temporary teeth that she is shedding may be interfering with mastication of food. If so, the tooth should be extracted, or there may be an abnormal growth of tooth which requires filing off. Perhaps she is troubled with worms. Mix together one part powdered sulphate iron, one part ground nux vomica, one part salt and three parts ground gentian and give her a dessert spoonful at a dose in ground feed, two or three times a day. As you perhaps know, oats is not a grain that fattens animals as rapidly as corn, therefore, you had better add a pint or two of corn with each feed, feeding less oats. Also feed well-cured mixed hay and a few roots.

Partial Paralysis. — We have a shoat that will weigh about 100 lbs. that is gradually losing use of his hind legs. This pig appeared to be all right up to ten days ago. Since then it takes him some time to get up and after walking a rod or two he travels fairly well. I have eleven pigs of this same age and none of the others are crippled. I have been feeding separator milk, corn and middlings, giving them all they will eat. Their pen is fairly dry and comfortable. B. M. S., Pleasant Grove, Pa.—It is possible that the other hogs have injured his back. Apply one part of turpentine and two parts raw linseed oil to back, three times a week. Also give him five grains sodium salicylate at a dose, two or three times a day. Perhaps you had better remove him from his present quarters and keep him alone until he recovers. Feed him some oats, oil meal and tankage and less corn, and he will doubtless get all right.

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Heating Equipment for Farm Homes

Details of Various Systems and Efficiency of Each Compared

By E. A. FESSENDEN,

PENNA. STATE COLLEGE

There is no reason why a farm home may not be equipped with any of the modern heating systems as easily as a city dwelling. Such a system will be found to pay for itself many times over in the increased comfort and better health of the occupants.

Fireplaces

The old-time open fireplace is still much used in modern dwellings. The cost of several fireplaces is rather high since to heat the entire house with open fireplaces requires several expensive chimneys and a considerable amount of high-priced labor in building hearths and mantels. The cost of fuel is also high since much is wasted in heating air that immediately passes up the chimney without contributing its warmth to the room. In the very best forms of open fireplaces only about 20 percent of the total heating value of the fuel is effectively used. The open fireplace, however, has many advantages. Not the least of these is the atmosphere of cheerfulness and comfort given to the room. The heat from the open fireplace is all radiant heat which warms the objects in the room but leaves the air comparatively cool. As a result, the moisture in the air is not dried out, hence the "feel" of the room is quite different from that where other forms of heating are employed.

Also, the open fireplace is an important aid to good ventilation, carrying off air fouled by the breathing of the occupants of the house. Because of its low efficiency in the use of fuel, heating exclusively by open fireplaces is today practicable only in moderate climates and in localities where fuel is very cheap. They are often employed, however, in connection with other systems of heating because of their beauty and cheerfulness, and their healthfulness and distinct value in insuring good ventilation.

Stove Heating

Most farm homes are heated by stoves, the number of stoves necessarily depending upon the size and arrangement of the house and the number of rooms to be heated. As in the case of open fireplaces, the use of stoves generally requires the building of several chimneys. These chimneys, however, are less expensive than those needed for open fireplaces. Stoves are more economical than fireplaces in their use of fuel. A good base burner will deliver into the room 70 to 80 percent of all the heat in the fuel burned.

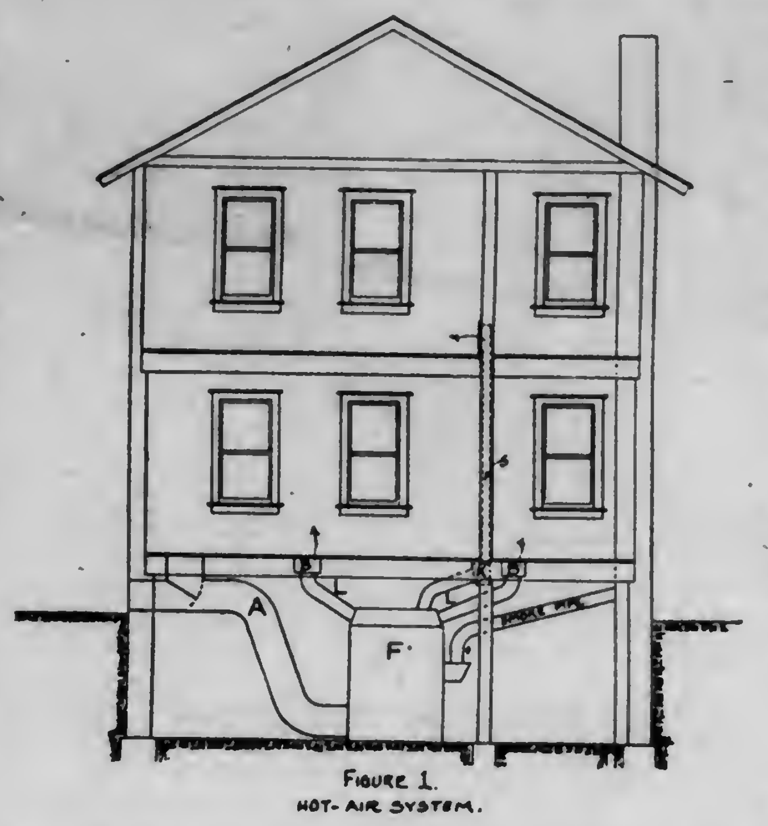


FIGURE 1.
HOT-AIR SYSTEM.

There are several items to offset this relatively high fuel efficiency. The amount of space required by stoves is one of their great disadvantages. This renders a considerable part of each room containing a stove unavailable for other furniture during several months of the year. Indirectly, therefore, this results in rooms being built larger than would otherwise be required and thus the original cost of the house is increased. Where stoves are used very often no provision is made for heating the entire house comfortably, hence parts of the house are closed to regular occupancy during the winter. Thus a part of the capital invested in building the house gives no return in service during part of the year. This is poor economy.

The amount of attention required where stoves are used should also be considered. Several fires must be built and maintained, fuel must be carried into the house for each of them and ashes carried out. All this adds to the labor of the household. Stoves are dirty; more or less smoke and soot escapes when the doors are opened for putting in fuel; dust from the fuel and ashes is scattered thru the house and when they are being carried to and from the stove. These things add to the expense of keeping the home clean. The curtains and carpets must be cleaned more frequently and are thus sooner worn out. Walls and ceiling must be painted or papered at shorter intervals.

The matter of appearance is also worthy of some consideration. After one has lived for a time in a house heated by a modern furnace system, he will begin to realize how unsightly even the best stoves are and how much the appearance of a room is improved by their absence.

Furnaces vs. Stoves

The modern house-heating plant consists of a furnace centrally located and a distributing system for carrying the heat to all parts of the building. They require comparatively little attention, add to the cleanliness and comfort of the home and maintain a reasonably uniform temperature thruout the house. When it is not necessary or desirable to heat the whole house, the room or rooms may be shut off from the furnace with a corresponding saving of fuel.

The first cost and the operating expenses of a modern heating system depend upon the kind of

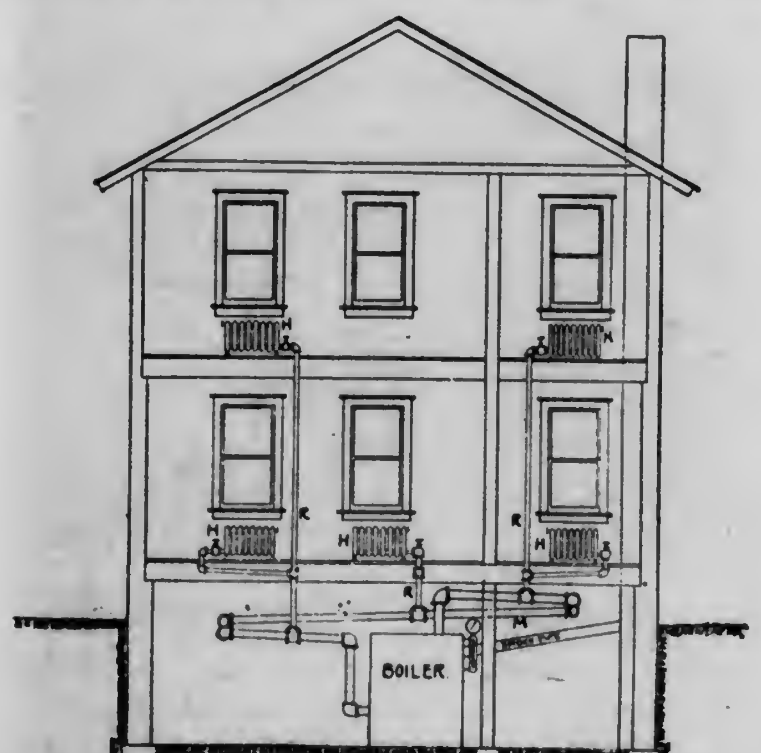


FIGURE 2.
SINGLE-PIPE STEAM SYSTEM.

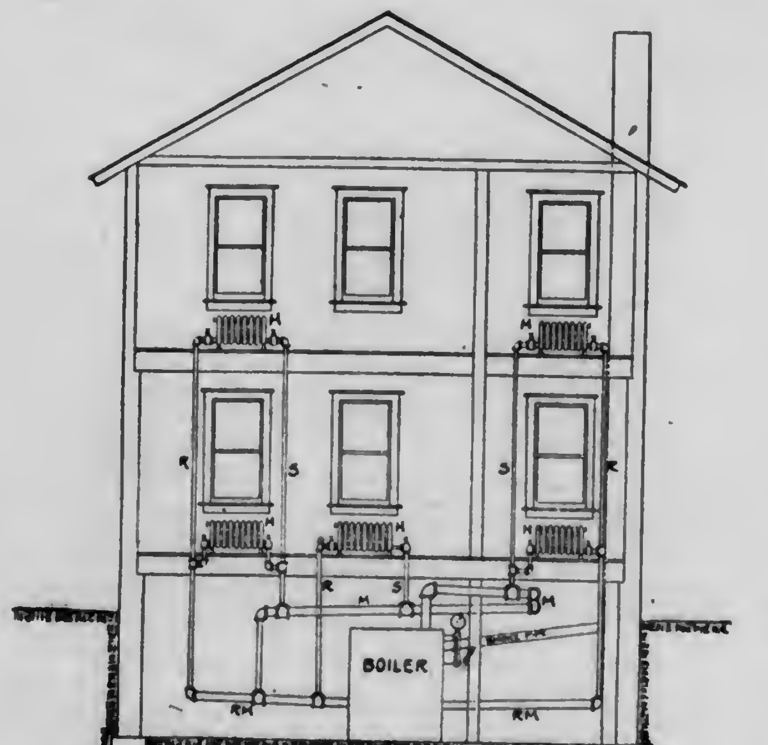


FIGURE 3.
DOUBLE-PIPE STEAM SYSTEM.

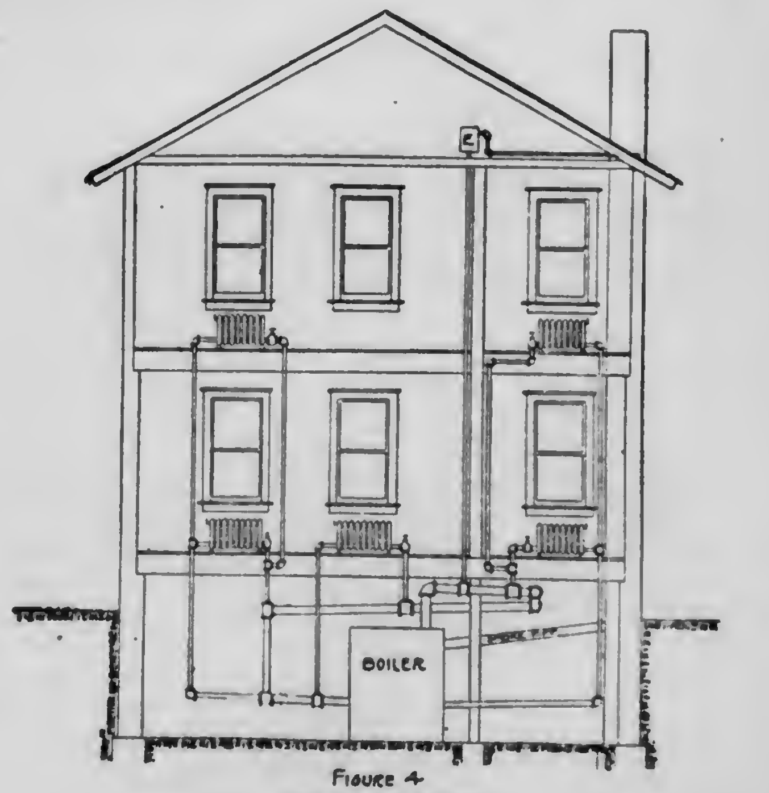


FIGURE 4.
HOT WATER SYSTEM.

plant installed and the size and construction of the house. The matter of good building construction is exceedingly important. Money is well invested in securing a well-built, substantial structure and the added expense will be returned many times over in the increased life of the house and in reduced fuel bills. A building cheaply constructed of poorly seasoned lumber that shrinks and leaves cracks and crevices, and with loosely fitting windows and doors, requires a larger and more expensive furnace and bigger fuel bills than one where careful workmanship and good material thruout have insured tightness and durability. The use of one or two layers of building paper between the sheathing and weatherboarding of a frame house adds little to the cost and makes the heating problem much easier. Careful attention to tightness around door and window frames pays well.

Hot-Air Heating

The hot-air furnace is essentially a large stove, with suitable casing and air ducts, placed in the basement of the house. Fig. 1 shows the cross-section of a house equipped with a typical hot-air furnace system. The cold-air duct, A, is arranged so that either fresh air from out of doors or air from the inside of the house is brought to the furnace F. This air is then heated in the furnace by passing over and around the firepot and smoke flues. After being heated the air passes thru pipes, L, called leaders, which terminate at the register boxes, B, for the first floor rooms, and at the boots, K, at the bottoms of risers or stacks, S, leading to the upper floor register boxes. For buildings such as halls, schools and churches, where many people are gathered together, the outdoor opening for the cold air duct is necessary in order to secure good ventilation. In ordinary dwellings, however, a more than sufficient quantity of fresh air will be provided by leakage into the building thru cracks and crevices so that the outdoor cold air connection is seldom needed. The re-circulation of the air by an outside cold air pipe requires considerably less fuel.

Hot-Air System Difficulties

One of the objections to hot-air heating is the influence of weather conditions upon the operation. The circulation of the air thru the system depends entirely upon natural draft; that is, upon the difference in weight between the warm air inside the vertical pipes and the cooler air outside of them. This difference in weight is very small, therefore the forces producing circulation are quite feeble and may be entirely overcome by slight resistance. For example, when a strong wind is blowing it is often nearly impossible to heat rooms on the windward side of the house because the wind leakage into the room results in air pressure sufficiently strong to overcome the tendency of the warm air to rise thru the register. And on the leeward side of the house more heat than is needed will often be delivered. Thus the parts of the house needing the most heat get the least. Generally, also, upstairs rooms are more easily heated than those on the first floor unless the first floor leader pipes are very short and direct. These inequalities in heating may be in some degree counteracted by care in planning the system. Smaller leader pipes should be used for upstairs rooms than for first floor rooms. The furnace should be set nearly under the center of the house, a few feet toward the direction from which the prevailing winter winds blow, so as to favor the colder side of the house with shorter leader pipes.

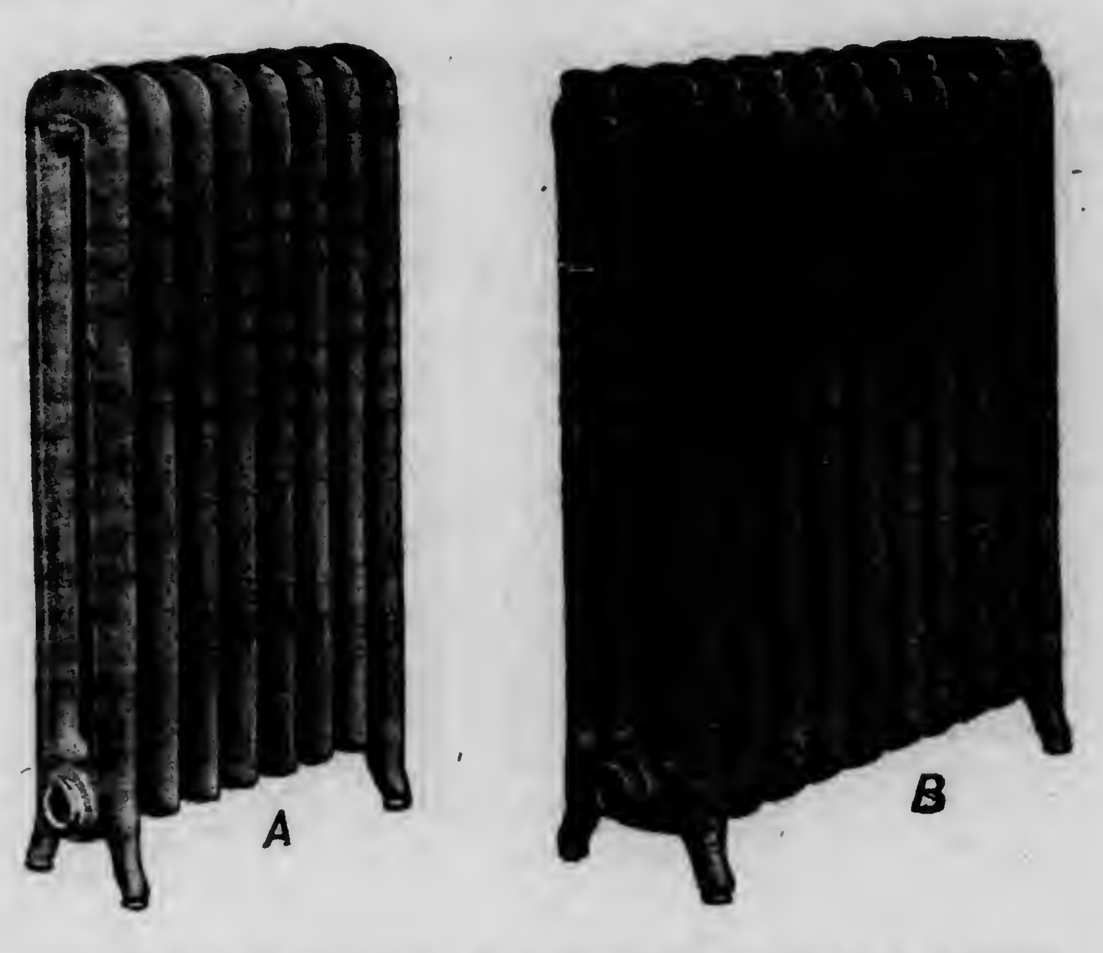
A water-pan in the air duct is an essential part of every hot-air furnace installation. The object is to supply moisture to the air, because moisture in the air makes for the comfort and good health of the people in the house, and permits lower room temperature than would otherwise be agreeable. The water-pan supplied with most furnaces is too small, therefore it is a good plan to have supplementary ones placed in the air ducts when the furnace is erected. Arrangements can easily be made for filling these every day from the outside.

A hot-air system costs less than any other modern system if it is put in at the time the house is built. To install a hot-air plant in an old house is a troublesome and expensive undertaking. Careful workmanship is required in erecting the furnace in order to make it gas-tight, and to prevent the leakage of furnace gasses into the air ducts of the furnace. When properly handled, hot air systems give satisfactory service and do not deteriorate rapidly. Where air is repeatedly circulated and no fresh air is taken from out-of-doors except that entering thru windows and doors, the efficiency of a hot-air system will be such that about 70 to 75 percent of the heat in the fuel will be directly applied to warming the house. Where all the cold-air supply is taken from outside, only 50 to 60 percent of the heating value of the fuel will be used to heat the house, because part of the heat is needed to bring the cold out-door air up to the temperature at which the air would enter the furnace if re-circulation were employed.

Steam-Heat Systems

In steam-heating systems a boiler is placed in the basement of the house, and the steam produced is carried by pipes to radiators located in the various rooms. The radiators give off heat in the same

(Continued on Page 14.)



Common Types of Radiators. A, Plain 2-Coil and B, 4-Coil Sections

Drainage Systems For Eastern Farms V

Requirements of Tile, The Home-made Level—By R. A. Andree

The home-made level, illustrated in our December 1 issue, consists of a piece of 1x4-inch board sharpened at one end, and with a hole bored thru it near the other end to receive a short bolt with a winged nut. A three-inch cross board having water gauges about six to eight inches long, wired to each end, is clamped to the first board by means of the winged nut. The glass tubes are connected by a rubber hose as shown. The hose and tubes are carefully filled with water colored with ink or wash blue, and a wire clamp or clothes pin should be provided to prevent the liquid from being spilled while the instrument is being caried. A shelf bracket, placed at a convenient height, enables the instrument to be pressed into the ground with the foot. All air bubbles must be excluded from the hose, as otherwise the liquid will not seek it own level. A clapboard, or similar piece of wood, can be marked into feet and tenths of feet with a heavy pencil, or with paint.

Starting the Hole for Tile Joint

To find the difference in elevation between points A and B, set up the instrument one-half way between the points so that both are visible, without disturbing the position of the instrument. By means of the wing nut approximately level the instrument. Release the wire clamp and the liquid will seek its own level. Sight across the liquid levels at the rod. Suppose you read 7.3 feet on station A. This means that station A is 7.3 feet lower than the height of the liquid in the instrument. Let A have any convenient elevation, say 100 feet; then the elevation of the liquid in the instrument would be 100 plus 7.3 or 107.3 feet. Let us say you sighted at B now and read 3.2 feet. The elevation of B is therefore 3.2 feet less than 107.3 or 102.1 feet. This shows also that B is 2.1 feet above A. From B the elevation of C, D, etc., can be found in the same way.

If stations are more than 300 feet apart or if their elevation differs by more than 10 or 12 feet, a temporary intermediate station must be used and its elevation must be found. This station may be discarded after it has been used as a basis for finding the elevation of some permanent station. A carpenter's level, altho not so handy, can be used in the same way. Where considerable drainage is to be done it pays well to buy a cheap instrument for about $15. Since explicit instructions are furnished with these instruments it will not be necessary to explain their use here.

Requirements of Tile

A vitrified round, or a vitrified glazed round tile is the most satisfactory in all cases. Hexagonal tile are harder to lay than round tile, but are just as durable. To prevent injury from freezing, and to give good satisfaction, tile must be non-porous. Especially is this true of the last five or six feet of tile near the outlet. Porous tile scale and crumble when laid above the frost line, but non-porous tile do not. To test a load

Completing Hole and Trimming Tile

of tile for porosity, weigh a few lengths and then soak them in water over night. Drain the superfluous water from them by allowing them to stand for five minutes and weigh again. They should not have gained more in weight than eight percent of their original weight.

This is only an approximate test and doubtful tile may still be good when laid before the frost line. The test, however, serves to definitely satisfy the purchaser that the tile are good for all purposes when they meet its requirements. Good tile should have a clear ring when struck with a hammer and should be well burned, of uniform size and have reasonably square ends. Curved tile are not needed for making bends but it is well to buy Y junctions if possible, to join the laterals of the mains. When this is not done, suitable junctions can be made as shown in figures 25, 26 and 27.

Concrete Tile

Since it is rather difficult to buy clay tile at this time many will naturally turn toward concrete tile. They have some advantages in that they can be manufactured anywhere, are true circular in form, with square ends and are uniform in shape. Especially where sand is available does the manufacture of concrete tile prove profitable. The chief reason for failure of concrete tile in the past was that they were made too porous. They must be made of a well-proportioned mixture, well tamped and not used too dry. It is essential that they be properly cured for at least a month before they are laid. The ringing and absorption tests recommended for clay tile also hold good for concrete tile. The cost of making these tile is about one cent per foot for each inch in diameter up to 12 inches in diameter. The larger sizes cost considerably more.

Stone Drains

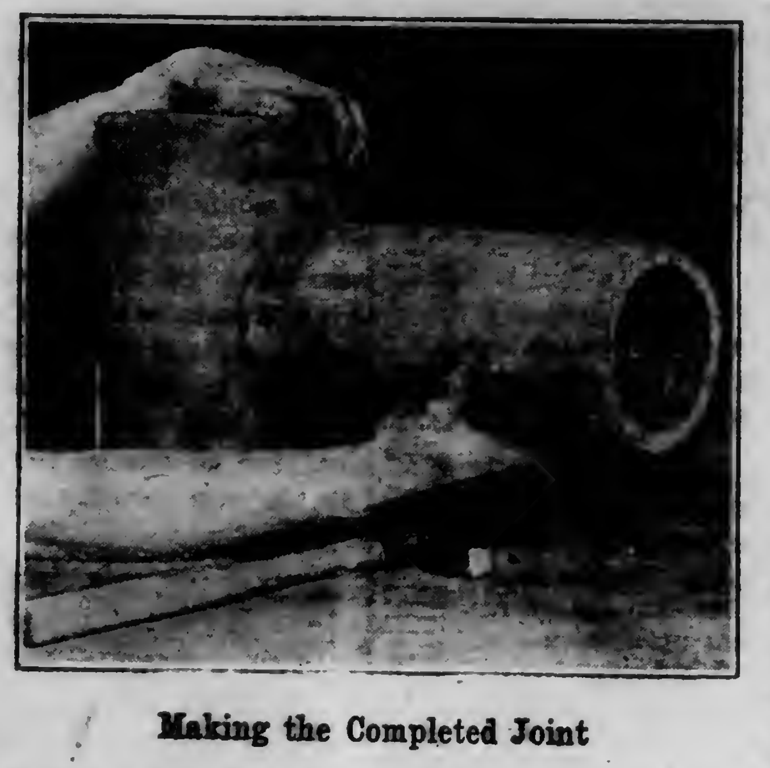
In many sections of Pennsylvania where drainage is needed, large flat stones are very plentiful. This prompts many to put in stone drains instead of tile. It is the writer's experience that it does not pay to lay stone drains even when it is an advantage to get rid of the stones. Labor is high now and so much labor is involved in laying stone drains that they usually cost as much after they are completed as a tile drain. The ditch must be dug considerably larger in the first place and the finished product is usually unsatisfactory. The biggest objection to the stone drain is that the improvement is not permanent.

There are a few stone drains in Pennsylvania that have given fair service for 30 years or more, but even these will give trouble in time. The writer has seen a large number of stone drains in Pennsylvania that were giving trouble and many of them gave way after working well for eight or ten years. No matter how carefully they are laid the water eventually shifts a few stones so as to cause that part of the drain to plug up. If this is not remedied at once the entire drain soon goes to pieces. Except where there is a great deal of slope, repair is almost out of the question. In spite of all the objections and costly experiences there are some who insist on putting in stone drains. If you find it necessary to do this read very carefully the instructions for putting in tile drain and then lay your stones as shown in Figure 29.

Orchard Drainage

Many of our best orchards are suffering in spots from wet weather springs and seepage water, while others are located upon soil having an underlying layer of stiff clay which prevents the water from soaking into the soil. Occasionally one comes across rather extensive orchards with innumerable outcrops of rock from which the water keeps oozing for several days after a rain. All these conditions can be fairly easily remedied if the proper measures are taken.

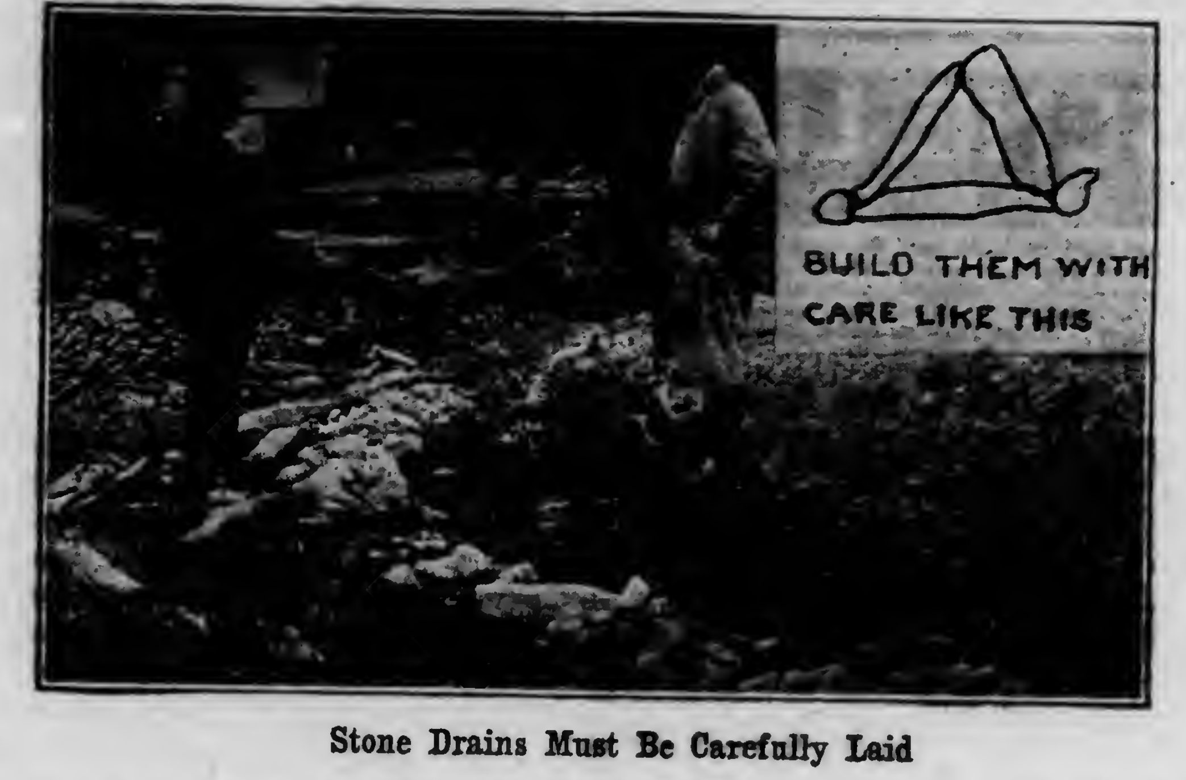
Orchard drainage precludes the possibility of shallow drainage on account of trouble which might then be experienced from the roots of trees clogging the drain. Between three and four feet is a satisfactory depth in this state, keeping toward the four foot depth if possible. The gridiron system adapts itself most satisfactorily to this purpose except, of course, where the wet spots are few and scattered. Then the natural system must be used. Place the drains as nearly between the tree rows as possible. Occasionally it becomes necessary to lay a drain near a tree or two, especially when making a turn. In such instances it is desirable to cover the joints with cement where the drain passes near the trees. When drains are laid midway between the rows of trees or nearly so, this precaution is not necessary. Where outcrops of rock are encountered, blasting proves advantageous.



Making the Completed Joint

Dynamiting Ditches

A ditch in which drain tile are to be laid cannot be successfully blasted. For open ditch work, however, blasting has become very popular and proves to be quite successful. Very little labor is involved, the work progressing rapidly and the blast distributes the dirt well over the adjoining fields, thus removing the necessity of hauling it away. Dynamite is also valuable for straightening out the beds of winding creeks and streams. This phase of drainage is very important to certain localities. A section of a winding stream 500 feet long with a drop of 15 inches may be straightened out so as to be only 300 feet long. This would increase the actual fall per 100 feet from three to five inches, thereby greatly increasing the rate of flow and doing much toward improving drainage. In places where vertical drains would be successful it is often possible to sufficiently shake up the subsoil with a few blasts of dynamite so as to drain the wet spot. It is not known how permanent this remedy would be, but since it is not very expensive it might be well in many cases to give it a trial. For information and instructions as to the methods of using dynamite for ditching, write to the Department of Agronomy, State College, Pa.



Stone Drains Must Be Carefully Laid

A Blasted Ditch in Crawford County, Pa.

Note.—The sixth article in this series, taking up the cost of drainage, will be published in an early issue.—The Editors.

STABLE MANURE

It is difficult to compare the value of stable manure with commercial fertilizer since the fertilizer has its plant food in a more available form than the stable manure, then on the other hand the stable manure has a value as a humus making material which is almost, if not altogether, as valuable to the soil as its content of direct plant food. The stable manure contains much more potash and nitrogen than it does of phosphorus, so that, considering the high price and scarcity of both of these in a commercial form, it is more important that the manure be carefully saved and applied to the soil.

It is also an economy to apply the stable manure in connection with acid phosphate so that the fertilizer is better balanced. I have made a practice of applying the stable manure to the land intended for corn the next year for a number of years, and in order to save the manure and to economize labor I draw the manure direct from the stable to the field where it is broadcasted at any time during the winter that the weather will permit. Some farmers think that it will leach away, but I prefer to risk the soil holding the manure to trying to store it until spring. Once, I put a few loads of manure near the middle of the field in the fall; then, when I hauled manure again I began to apply it on another part of the field and did not apply manure around this first hauling until early spring. All was plowed down and planted to corn. The result was that the best corn in the field grew where the first few loads were scattered. I have tried using acid phosphate on part of a field of corn, stable manure on a part, and both used on a part, with the result that much the best corn grew where both manure and acid phosphate were applied. I usually apply the acid phosphate to the corn land with a wheat drill all over the ground before the corn is planted, drilling about 200 pounds per acre. Last year, I put acid phosphate in the hill in a small part of the ground where stable manure was applied with rather unsatisfactory results. A part was drilled in with the corn with a corn drill with much better results.

When the fertilizer is applied in the hill only the corn will not stand a drouth so well as when the fertilizer is distributed thru the soil.—A. J. Legg, W. Va.

TOP-DRESSING WHEAT WITH MANURE

Top-dressings of manure on wheat in the fall or early winter lessen dangers from winter-killing, save moisture and add considerable plant food for the crop. From five to eight tons per acre spread evenly has proved a profitable application. In case of scarcity of manure, the lighter application will be the best and thin soils should be treated first.

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Your Feeding Troubles

Professor Rasmussen to Answer Queries

There was never a time when dairymen needed to study their feeding problems more than at the present. With high prices of all grain feeds, with good hay scarce and high priced, and with the margin of profit between the cost and selling price of the finished product so small, every feeder must make the best use of the available feeds and buy to the best advantage. Because of the many unusual conditions and the importance of the feeding questions coming to us, we have arranged with Professor Fred Rasmussen, head of the Dairy Department of the Pennsylvania State College, to discuss feeding questions for our readers. Prof. Rasmussen is accepted as one of the best authorities in the country and his discussions of your feeding problems should be worth money to you. Address all queries to Pennsylvania Farmer, and replies will be published thru these columns. Note the following request from Prof. Rasmussen on what information to give in asking for advice:

Prof. Fred Rasmussen

In answering inquiries relative to feeding dairy cows, it is important that when suitable rations for dairy cows are asked for, each inquirer give information on the following points: First, kind of roughage available, whether alfalfa, clover, mixed hay (clover and other grasses), timothy, corn stover, corn silage, corn fodder, or any other roughage. The term corn fodder is often used where corn stover should be used. Corn fodder is the term applied to corn which has been grown principally for forage, and from which the ears, if there are any, have not been removed. Shock corn or bundle corn refers to well-hardened corn which has not been husked. Corn stover applies to corn stalks from which ears have been removed. Second, give the grains grown on the farm, such as corn, barley, oats and rye. Third, give the names of the concentrates available at the local feed dealer, with the price and guarantee as to protein, fat and fiber. The percentage of same is required by law to be placed on or attached to each bag. The standard mill feeds and by-product feeds, such as bran, gluten feed, hominy, brewers' grains, cottonseed meal and oil meal generally are best suited for mixing with home-grown grains, and should always be given consideration in mixing up a suitable ration.

Feed Query—Off-Flavor Milk

We have a cow due to come fresh the last week in February. Her milk is strong and off flavor. It has been next to impossible to churn her cream for the last three weeks. The cow is fat but she will eat horse manure and refuse whenever she can manage to get it. At morning and evening she is fed all the clover and meadow hay she will eat, also corn stover which has been cut and moistened and mixed with one pint each of bran and corn meal. She also gets a pint of commercial feed at the same time. At noon she gets all the dry corn stover that she will eat. What can be done to make her milk fit to use? She gives only about three quarts a day. If she is not properly fed, what change should be made?—H. L. R., Slatington, Pa.

A cow in lactation period occasionally produces abnormal milk, as indicated by an undesirable odor and strong taste; the taste sometimes being salty and bitter, perhaps having an undesirable sickening taste. This abnormal condition is not caused by the character of the feed, but is probably due to unnatural functioning of the milk glands, or perhaps bacterial contamination in udder, and is liable to occur about the same time in the lactation periods.

The fact that butter churns with a great deal of difficulty is due to one or all of the following causes: Too thin cream, too low churning temperature, small fat globules in the milk and high melting point of fat. When cows are late in lactation period, the fat globules in the milk become smaller and the melting point of the butterfat becomes higher, the latter being due to a larger proportion of stearin and palmatin in the fat. Small fat globules with a high melting point unite with difficulty during the churning process. A higher churning temperature than normal is required.

When cows are heavy with calf it is not uncommon to find them eating things which are abnormal, for instance like your cow eating horse manure. Sometimes cows are seen to eat wood. It may be due to a lack of certain elements in the feed or a habit. See that the cow is well supplied with salt, three-quarters to one ounce daily. Feed equal parts of corn, bran and oil meal. Feed clover hay and corn stover as roughage.

The trouble with the strange odor and taste in the milk as well as the difficult churning which is experienced, is no doubt due to the cow being late in lactation period. Since the cow is only giving three quarts a day and is due to calve in about eight weeks, she should be dried up.

FEED INDUSTRY UNDER U. S. LICENSE

Members of the American Feed Manufacturers' Association and representatives of industries producing animal feeds as a by-product have agreed to come under the control of the U. S. Food Administration. Federal supervision of feeds will take the form of licensing systems whereby licensees are required to make monthly reports to the Food Administration, enabling the Administration to detect hoarding, excessive profits, waste and other illegal practices, also to know the exact amount and location of commercial feeds in the country.

COTTONSEED PRICES REDUCED

According to a report of the U. S. Food Administration the cottonseed crushers' associations of Missippi, Louisiana, Tennessee, Arkansas and Texas have agreed to cut the price of their product from $5 to $7 per ton, depending upon the grades. They have agreed not to charge above the following schedule of prices for the remainder of the season: 43 percent protein, $53.50 per ton bagged; 41 percent protein, $51.50 per ton; 38 percent protein, $48.50 per ton; 36 percent protein, $46.50 per ton. Buyers are warned not to pay in excess of these prices plus transportation and a reasonable profit.

DOYLESTOWN COW TESTING ASSOCIATION REPORT

The Doylestown cow testing association, of Bucks County, Pa., has completed its ninth month's work, with 24 cows in the honor list. In these nine months 52 cows have been discarded from the association as unprofitable producers, and 44 of the 52 have been sold to butchers to be slaughtered. Four cows died, making a total of 56 cows leaving the associaion.

A few cows have been bought to replace those sold, but most of them have also proved themselves unprofitable as it is very likely that they are cows that have been discarded from other associations as unprofitable producers.

Dairies do not seem to be doing as well this fall as usual, and the fact is due I think to the poor quality of feeding hay the farmers have. Most of the hay is timothy with very little clover hay mixed in.

The following table gives the records of the cows in the association which have produced more than 40 pounds of butterfat or 1,000 pounds of milk during the month of November, with the name of the owner.

Owner	Breed of Cow	Pounds of Milk	Pounds of Fat
J. L. Shelly	Hol.	1,230	41.8
J. L. Shelly	Gr. Hol.	1,350	50.
S. Detwiler	Gr. Hol.	1,308	44.4
S. Detwiler	Gr. Hol.	1,170	35.1
E. N. Brown	Gr. Hol.	1,143	30.8
E. N. Brown	Gr. Hol.	1,206	47.
E. N. Brown	Gr Dur.	1,023	43.
Edwin Hugh	Gr. Hol.	1,008	32.3
H. D. Hunsberger	Hol	1,203	43.
H. D. Hunsberger	Hol	1,104	40.
Wilson Jones	Hol.	1,089	32.7
Wilson Jones	Hol.	1,020	40.8
Wilson Jones	Hol.	1,026	30.7
Wilson Jones	Hol.	1,420	45.
P. Woodman	Gr. Hol.	1,050	32.6
Allen Zetty	Gr. Hol.	1,059	36.
Allen Zetty	Gr. Hol.	1,422	38.4
A. L. Garges	Gr. Hol.	1,050	28.4
J. C. Myers	Gr. Hol.	1,290	34.8
J. C. Myers	Gr. Hol.	1,029	38.
J. C. Myers	Gr. Hol.	855	40.2
Woodfields Fm.	Gr. Hol.	1,080	41.
Woodfields Fm.	Gr. Hol.	1,065	40.5
Woodfields Fm.	Gr. Hol.	1,200	32.4

—Willis M. Hunsberger, Tester.

THE WINTER FEED

With prices of feed stuffs where they are, we need to exercise every possible care to help the dairy do its part in the present urgent national crisis. On our own farm on account of the wet weather last Spring, which lasted from one end of the season to the other, we did not get in as much silage corn as usual. Our silo, which is 14x40 feet, is not more than half full, and what there is is not as good as usual because of the immature condition of the corn. We have, however, a good supply of corn fodder, as well as a fine crop of hay. We are husking the corn and feeding the stalks out now, before opening up the silo. The dry fodder with some hay and a comfortable ration of grain appears to be doing well for the stock. A little later, when the dry stalks are gone, we will open up the silo and feed some hay and grain.

A neighbor of ours, speaking of saving corn, says: "I do not want any silo. I leave my corn out until I want to use it, then draw it and cut it. By leaving it in a pile a few days, it softens up some and the cattle eat it all right." I asked him if he did not think there was quite a loss in feeding value. He said he did not, and quoted the reports of farmers in some distant community to back up his opinion. But whether or not that is so, it seems to me the tugging and pulling of shocks of corn when frozen to the snow and ground as they must be in winter, together with the consequent backache, would more than make up for any gain in time or money that might be necessary to put the corn in the silo. I am not lazy, but I don't like the backache.—E. L. V., Broome Co., N. Y.

GOOD COW-TESTING RECORDS

The Southern Steuben County, N. Y., Cow Testing Association has finished six months' work with 34 cows in the association which have made 200 pounds or over of butterfat. The names of owners, breeds and amounts made, are as follows:

Owner	Breed	Lbs. Fat
S. F. Dartt	Holstein	293.3
L. E. Hilborn	Holstein	285.4
L. E. Hilborn	Gr. Holstein	224.5
L. E. Hilborn	Gr. Holstein	220.7
M. W. Davison	Ayrshire	271.3
M. W. Davison	Ayrshire	262.
M. W. Davison	Ayrshire	252.2
M. W. Davison	Ayrshire	241.4
M. W. Davison	Ayrshire	218.7
M. W. Davison	Ayrshire	208.4
J. Sherwood	Gr. Holstein	258.6
J. Sherwood	Gr. Holstein	247.7
J. Sherwood	Gr. Holstein	222.2
C. L. Brutsman	Jersey	243.5
C. L Brutsman	Jersey	232.9
C. L. Brutsman	Jersey	227.2
C. L. Brutsman	Jersey	216.9
C. L. Brutsman	Jersey	210.
L. D Rathbun	Jersey	240.
O. Dennis	Gr. Holstein	239.1
O. Dennis	Gr. Holstein	235.1
O. Dennis	Gr. Holstein	219.8
O. B Marlatt	Holstein	230.6
A. J. Murphy	Gr. Holstein	224.2
A. J. Murphy	Gr. Holstein,	205.6
A. A. Button	Holstein	219.5
A. A Button	Holstein	218.7
Fred Bowles	Jersey	213.6
Fred Bowles	Jersey	203.8
Fred Bowles	Jersey	202.4
Ed Lane	Gr. Holstein	210.3
H. Simpson	Jersey	207.7
A. L. Whiting	Ayrshire	201.7
F. L Woodward	Gr. Ayrshire	200.
L. M. Dennis	Gr. Ayrshire	200.

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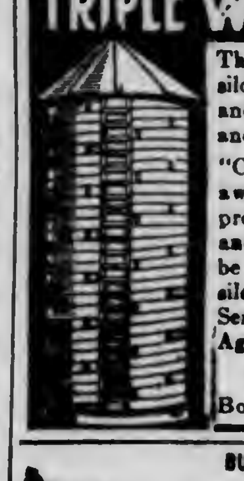

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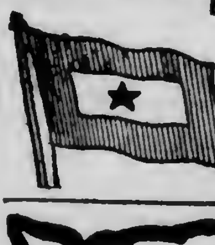

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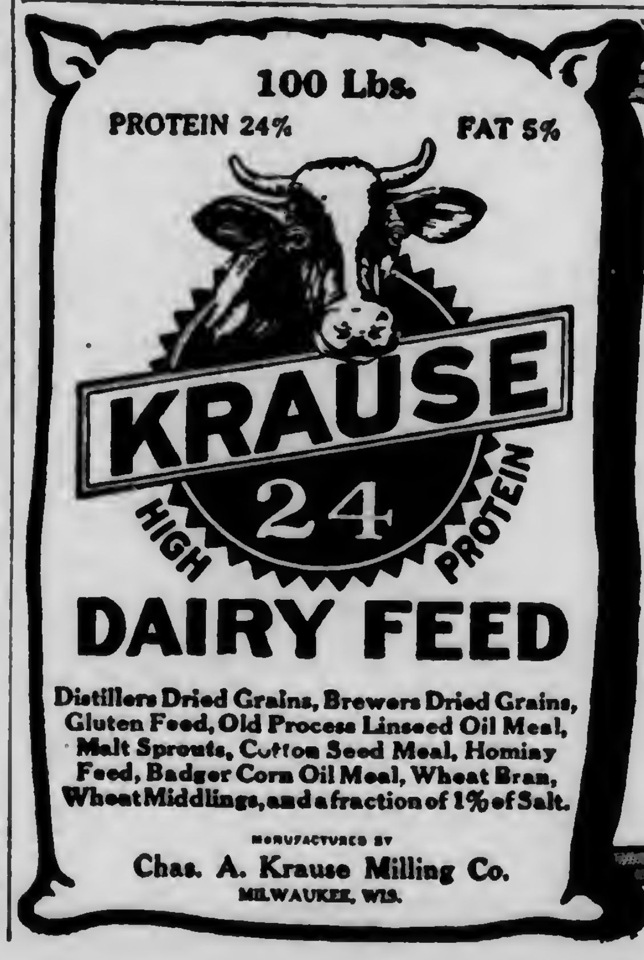

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* * *

Cottonseed Meal Announcement is made on page five of this issue of the prices of cottonseed meal at the crushers. The Food Administration warns dairymen and other feeders not to pay more than these prices, plus transportation and a reasonable profit. Feeders cannot know what transportation charges are and there is much difference of opinion as to what constitutes a reasonable profit. The safest method for the feeder will be to compare the prices asked by his dealer with the wholesale prices quoted, and if the difference seems too great, to report it directly to the U. S. Food Administration or the headquarters of your State Defense Board. The Food Administration desires to keep a check on all dealers. It may not be able to make a prompt adjustment for you, but it will be well to let the officials in charge know that you are watching results.

* * *

Your Supplies Many farmers learned last spring that it did not pay to hold orders for needed fertilizer, seed, lime and machinery supplies until just before needed. The conditions that made late ordering disastrous last year exist in even more aggravated form this year. Freight congestion is the worst in the history of the country. The railroads have been making frantic efforts to relieve the situation but more business merely makes the task the harder. There is nothing for the shipper to do but to get his orders for the things he knows he must have as early as possible and take care of the shipments as soon as possible after their arrival. The road officials point out that early orders will enable manufacturers and transportation companies to forecast the needs and prepare for them, will enable shippers to load cars to capacity, and early handling of shipments on arrival will liberate equipment for further needed use. Compliance with these requests may mean a little annoyance to the farmers, but very little if plans are properly made, and the results will be of inestimable value to the general business of the country.

Most farmers know now about how much fertilizer, lime, feed, seeds and other supplies they will need. The feeds should have been ordered early in the fall, but perhaps less was so ordered this year than usual because of the uncertainty of the feed market. This uncertainty does not exist in the other staple farm supplies and early ordering will help the shipping situation and will be the only means of having the supplies on hand when they will be needed.

* * *

"Peace on Earth" More than nineteen centuries ago there rang out from Heaven a message bearing glad tidings to an oppressed, war-weary world; a world dominated by the sword and subject to the most oppressive autocracy the world has ever known—Rome. Perhaps it was the spirit of eternal hope ever present in the hearts of the simple minded shepherds that made them able to hear and understand the angelic message, "Peace on earth; good will of men"—a message which was at once a prophecy and a command. Thus was heralded, also, the coming of the Great Teacher who, by example and precept, taught that peace on earth, the thing most desired, would be attained by bearing good will towards all men. That same message would be the most welcome words that could come to us—a war-weary, distraught world. Have our ears grown heavy, or is the distance so great that we cannot hear it? Have we forgotten that he said, "Lo, I am with you alway, even unto the end of the world"? Are there enough who take Him at His word and have sufficient faith in His teaching to believe that peace on earth will come, and that it can be permanent only when men recognize the fatherhood of God and the brotherhood of man, and that good will among men is the only basis of enduring peace? All other means are make-shifts and ineffectual substitutes. After this horrible war is over, the din of battle ceases and the smoke clears away; after the wounds to bodies and hearts heal, may mankind be so sobered as to be willing to sit down and decide once for all that Divine decrees cannot be annulled or amended and that, after all, the only true basis for human welfare and happiness are those taught and exemplified by the lowly and despised Nazarine.

* * *

An Agricultural Policy It must be apparent to everyone that the winning of the war will subject every fundamental industry of this country to a greater strain than it has ever known before. The manufacture of munitions, the steel industry, ship building and the railroads are all called upon to "speed up" as never before. To encourage maximum production in these lines, the government has outlined definite policies in the treatment of each. The cost-plus-10-percent policy was early established. Governmental influence has been exerted to provide labor for these industries. More recently, governmental funds have been advanced to finance some of the munition makers. There is nothing to criticise in these activities. The products of these industries are absolutely essential to the conduct of the war, and manifestly men and money can not be induced to operate them without guarantee of at least paying returns.

But why has not agriculture been included among the necessary industries? Food and clothing are as essential as steel, or ships, or munitions. The products of the farm are essential in times of peace, and doubly so in time of war. The government has established a definite policy for treatment of the other essentials, but it has not defined its policy towards agriculture. It insures a return to the manufacturer, but it does not insure a return to the farmer. Why the difference? We are not asking this question from the standpoint of justice to the farmers alone, but more particularly because we believe that the question must be answered very definitely or we will fail in the production of foods.

It is time that the agricultural needs of the country were taken up in a very definite way. It is time now to prepare for the crop year of 1918, and unless it is done there are many reasons to expect that acreage and production will be reduced at a time when both should be increased to the maximum. This is no reflection on the patriotism of the farmers as a class. They did all that was possible the past year. They will do all that is possible next year. But there is a limit to what they can do merely in response to a patriotic call and without assurance of what they are to receive in return for their investment and labor.

We are told that the farmers must produce twice as many potatoes next year as they did this year. Because of the high cost of seed last spring, the high cost of fertilizers, labor and every item that went into the growing of the crop, it cost the farmers of the East close to $1.50 per bushel for the season's crop. But they responded to the call and grew potatoes. They produced a record crop in an unfavorable season. Had climatic conditions been more friendly, they would have produced a crop far beyond any previous record. But the crop they did produce is being sold at a loss. Where potatoes are selling at less than $1.25 per bushel there is nothing for the farmer who grew them, and at $1.50 per bushel it is a question if there is a profit to pay interest on the money and labor invested. With this experience before them, it will require more than an appeal of words to stimulate production next year. Neither patriotism or altruism can stir a large class of producers to operate at a heavy loss to themselves, their property and their families.

The farmers did all they could do with their help and equipment this year. Many have worked every member of the family harder than they can possibly work them another year. It takes money to hire more labor where it is still available. It requires money to buy additional equipment and machinery, to drain land and to make improvements that will increase the crop returns of the farm. Such expenditures are absolutely necessary if the farmers are to produce all that is expected of them next year. What assurance can the government make that such expenditures will bring returns to pay for the investment? This is the question that the farmers all over the country are asking. It is the question that they must ask in defense of their business and their homes.

Before this is printed there will have been held in Washington a meeting to formulate a request for a definite agricultural policy. Governmental action on such a policy will have the greatest effect upon farm production next year. Without it, nothing but the most favorable climatic conditions can bring the crop returns that will be needed.

* * *

The National Grange's Failure Some time ago we published an editorial commenting upon the failure of the National Grange to tackle the questions which most vitally affect the welfare of the farmer. Another session of the National Grange has been held and a reading of the reports which have so far reached us has not changed our opinion as to its unwillingness or inability to take up and solve the many questions which are perplexing farmers and preventing the best development of agriculture. Never was there a time when the business of farming needed leaders who could represent it in the nation's councils as now; never a time when a strong organization could perform, for the government as well as for the farmers, a service which would strengthen the power of the nation and its chances for success as in the present emergency. Had the National Grange been "on to its job" now and in the past and shown that it had viril qualities, agriculture would probably not now be unrepresented among those who have directing charge of affairs at Washington.

The activities of the late meeting seem to have been a repetition of past declarations, with some high-sounding phrases declaring loyalty and patriotism. The resolutions are reiterations and re-affirmations of already well-known principles and contain little or nothing of definite or concrete suggestion that would aid in solving the present-day difficulties. In the face of this lethergy, individual farmers and local organizations are working tooth and nail to gain from the public a just recognition to the end that this fundamental industry may receive economic and political justice. This is no time for supine toryism, nor to rest complacently on past achievement. We do not believe that the National Grange is truly representative of the state granges, or of the thousands of subordinate granges and much less does it represent the business of agriculture. Again we say, wake up the National Grange.

HARRISBURG NOTES

The Commission's Plight.—Of all the unusual situations which the Brumbaugh administration of the state governmental affairs have brought about in the last three years on Capitol Hill it is doubtful whether anything more singular has been known than the place wherein the State Commission of Agriculture now finds itself. Created to carry out a plan for great agricultural advancement which was promised, but never got beyond the phrase making stage, and rebuffed by the gubernatorial appointee when it endeavored to administer the act, the commissioners have hung on, holding secret meetings, practically snubbed in the department they are supposed to oversee and ignored by the governor, while costing the state mileage and expenses. For months it has been apparent that the secretary of agriculture proposes to run the department and the governor to keep out of the row. The commissioners have now forced the issue and some developments may be expected before the meeting of the State Board of Agriculture and the allied bodies where there will doubtless be that freedom of discussion about an administration which invariably comes in its last year of power. The commission has rejected the appointment of E. B. Dorsett as chief of the new bureau of markets. Dorsett, notwithstanding what may be said, was a Brumbaugh selection, promptly accepted by Secretary Patton, who shouldered the responsibility. When the secretary was absent the commission rejected the appointment. Dorsett's salary was held up months ago when the auditor general declined to recognize the legality of the Patton appointment which is in the suprema court on a test case and now the commission which is charged with the duty of passing appointments has turned him down, presumably with the full knowledge that he was a gubernatorial choice. The matter is up to the governor. Several of the commissioners are said to be willing to quit as soon as the governor indicates a desire that they shall, but the governor probably knows that they may have something to say and that the serenity which he would like to have in his final year may be ruffled. It is a case of standing by the commission or the secretary, however.

Mr. Snyder's Crusade.—Boiled down Auditor Gen. Snyder's activities lately are in pursuance of authority conferred upon him to prevent deficits being created in the state government. He has the right to inquire into necessity of appointment of persons to be paid out of contingent or general funds and the right to ask why salaries are increased. Everyone about the State Capitol who knows anything is aware of appointments being made and salaries being increased for political considerations. In this respect the Brumbaugh administration has not been much different from others.

Must Repair Pikes.—Orders issued by the Public Service commission in three Lancaster County turnpike cases rather forshadow a pretty drastic policy in regard to such roads. There has been a tendency because of the prospects of the state taking over the toll roads to let highways run down, altho tolls do not decrease. The Public Service board has hauled up several roads short and Lancaster is likely to see improvements before July 1 next. It may be added that the state is making real progress in the way of taking over toll roads. Practically everything west of the Mountains has been bought and a few remain in the Cumberland Valley, while big stretches have been taken or will be bought in vicinity of Philadelphia.

Big Premium List.—It is announced that over $1,000 will be represented in the list of premiums for the proposed second mid-winter show of corn, dairy products, poultry and products, wool, apples and vegetables. After some discussion and a few changes it has been decided to make the show a feature of "Agricultural week" here in January. Announcements are being prepared.

May Call In State Police.—It is possible that in the event of county commissioners failing to properly enforce the new dog code which becomes effective next month that State Policemen may be asked to do the killing and the bills sent to the counties. The circulars will be issued soon. The tag generally recommended will be barrel-shaped with a clover leaf tag for kennels.

The Labor Situation.—State employment and Public Safety officials are planning a way to meet the demand for farm labor in the spring, but details have not been announced. With the second draft in sight and the remainder of the men in the first about to move; calls from the shipbuilding industry for double the hands now employed; iron and steel plants bidding against each other; coal operators beginning their men to work and railroads seeking women to replace men, it is going to take drastic official steps to get men into fields. That the situation is serious is seen by the moves being made to buy tractors for ploughing.—Hamilton, Harrisburg Pa., Dec. 7.

NEW YORK LETTER

Weather Notes.—There were only nine clear days in November in most of our state, while it was the coldest with the exception of 1903 and 1910 since records have been made. December has been a continuation of extreme cold and heavy snow, with a real blizzard and zero weather from the 8th to the 11th. Novel sights are those of powerful threshers being drawn thru the snow by several teams, preceded by an army of snow shovelers. It is only in this way that the farmers can get their grain threshed, while many in remote locations will not be able to thresh at all. Lack of help and bad weather have caused this unusual condition.

Should Order Tractors Now.—A total of $2,262,975 worth of tractors was sold by a tractor company on one day to their jobbers recently. On account of the Federal ruling that steel shall be given only to the companies showing actual orders for goods, it is most necessary that farmers order tractors and other machinery at once so that the dealers may have enough implements to meet the demand.

Granges Active.—Clifton Spring Grange and all other granges in its county have been holding indignation meetings over the new school law as operated this year and they are urging every grange in the state to take action on the question. Many will send resolutions to state grange, which meets in Syracuse in February. The law has a few valuable features, like uniform taxes, and better business management of schools, but the physical training features seems to be unpopular everywhere imposing an unnecessary and burdensome expense, while certain graft features have caused very general dissatisfaction.

Novel Conference With Washington Officials.—Dean Howe, of Syracuse University, and A. L. Brockway have been sent to confer with Mr. Herbert Hoover and Secretary of War Baker, with representatives from other counties, to uphold the plan of a separate branch of the national army be formed to carry on farming. Men forming such a branch may have minor physical defects. The delegation has been encouraged to expect consideration of such a plan.

New Assembly of Many Callings.—As usual, lawyers will predominate in the 1918 Assembly, but for the first time farmers will contribute the next largest class. The Republicans will number 98, Democrats 41, Socialists 10, Independent 1.

Syracuse Enters Dry Fight.—Syracuse has launched a lively campaign towards a dry city, and will instruct their Congressman, W. W. Magee, to support national prohibition next week.

New Milk Commission Busy.—On December 5 and 6 the new Federal milk commission took evidence as to the cost of milk production at Utica. About 700 farmers were present at the hearing and were gratified at the courteous attitude and fair play exhibited towards them by the board. Each farmer testifying gave his cost of milk production for the year; also, for the month of November. Costs for the latter month varied from $3.50 to $5 per 100 lbs., the average reports being about $4.25. The averages for the year ran around $3. The most startling evidence of the slaughter of milk cows was given. The Oneida County farmers showed that since August over 70 carloads of cows had been shipped for beef within a radius of a few miles in their county. They had been partially milked out and would have freshened in the Spring. An Otsego County witness testified that only one-sixth of the cows that were in his locality three years ago now remained, as the farmers could not pay expenses producing milk at prevailing prices and had sold their dairies, and now produced hay. That this terrible sacrifice will continue at a much faster rate if milk prices do not increase at least two cents a quart, was the opinion of many witnesses.

Price Control Makes Farm Labor Scarce.—J. W. Robson, state specialist in farm labor, in an address before the annual meeting of the Tompkins County Farm Bureau Association said that government price control was at the bottom of the farm labor difficulties. The price fixed for wheat and other crops is prohibitive to the grower when help must be figured in the cost of production. Geo. H. Fitz, county leader of the Dairymen's League, recent candidate for member of assembly, and a witness before the recent milk hearing, was elected president of the Farm Bureau Association of this county.

Price Quotations.—Cabbage is quoted $30 to $32 in Buffalo and other city markets. Very little is being consigned at present. Potatoes, frost free, $1 to $1.20 per 60 lbs. Eggs, 55 cents for brown; 65 cents for white ones. Apples, slow demand; $5 to $5.50 a barrel. Heavy snow has delayed freight service and general trade.—F.

NEW JERSEY FARM NOTES

Cost of Highways.—There should be no delay in the carrying out of the state's $15,000,000 highway program because of the present high cost of materials and help is the view of State Engineer George W. Goethals in his first report submitted to the State Highway Commission. Modern highways are a military as well as a transportation necessity and asset, he says, and whatever the cost, such improvements never were so greatly needed in this leading industrial and agricultural state, one of the main entrances to the country's outlet, the port of New York. In the opinion of many economic authorities the day of low construction prices will never return, General Goethals declares. Congested conditions of the railroads create a greater use for the motor truck to transfer farm and manufactured products, and the present and future war conditions affecting the handling of freight by the railroads will tend to increase the use of motor trucks, his report states. This makes the necessity for good roads greater now than ever. The new State Highway System is to cover over 550 miles in its 15 routes, which are to reach every portion of the state. Goethals created a stir by requesting State Highway Engineer Robert A. Meeker, for 17 years in the state service as a road builder, to tender his resignation to the State Highway Commission, which Mr. Meeker did. No official reason was announced for this move, but it is understood Goethals was not satisfied with the work of the highway engineer. W. G. Thompson, the assistant highway engineer, was made acting state highway engineer. Thompson was on the Panama Canal with the General and had charge of road construction there.

Sheep Experiment.—For the purpose of making an experimental study, as well as providing animals for demonstration and for judging by students, the New Jersey State Agricultural College and Experiment Station at New Brunswick has acquired a flock of sheep consisting of 15 matured animals and eight lambs. They are of the Dorset Horn brand, are all pure bred and registered. They originated in the famous herd of the Woodlawn Farms, Ohio, owned by the late Joseph Wing. For a number of years sheep raising in this state has steadily decreased, until now, except in a few localities, the number raised is very small.

Public Markets.—No state ever took up with public markets so enthusiastically as New Jersey did during the past season, says the State Department of Agriculture. Reports from all municipalities have now been received by the Bureau of Markets showing that 16 farmers' retail market places were established during the year and that six other cities are seriously considering the subject. Obstacles were encountered and some benefits lost, but none of the markets was a decided failure. In this connection it is stated that whereas farmers have been slow to appreciate any particular value in these markets, numbers of fruit growers and vegetable growers living within easy hauling distance of large villages and cities are showing much interest in the subject to make their growing methods conform to retail demands for next year.

The Delaware Bridge.—One of the propositions to be considered by the next legislature for enactment into law is the plan to connect New Jersey with Pennsylvania and New York by direct route for vehicles. A bridge is to be the form of the link to be swung across the Delaware River connecting Camden with Philadelphia, and a vehicular tunnel under the Hudson River to tie up Jersey City with New York is the scheme. Governor Edge is back of it and General Goethals will look after the engineering. The Delaware bridge, if built, will have the longest span in the world, according to the plans filed with Mr. Edge. Both projects would cost about $25,000,000 of which New Jersey would pay about one-half. This state will raise the money thru the system of a direct state tax, as the money is now being raised for roads.—L.

FARM MEETING CALENDAR

Pennsylvania Farmers' Week, State College, Pa., December 26-29.
Madison Square Poultry Show, New York City, December 28-January 2.
Delaware Corn Growers' Association, Middletown, Del., January 2-4.
New York State Breeders' Association, Syracuse, January 8-10.
New York State Fruit Growers' Association, Rochester, January 9-11.
New Jersey Corn Show, Trenton, January 23-25.
Agricultural Week, Trenton, N. J., Jan. 22-25.
New York State Grange, Syracuse, N. Y., Feb. 5-8.
New York Farmers' Week, Ithaca, N. Y., Feb. 11-16.

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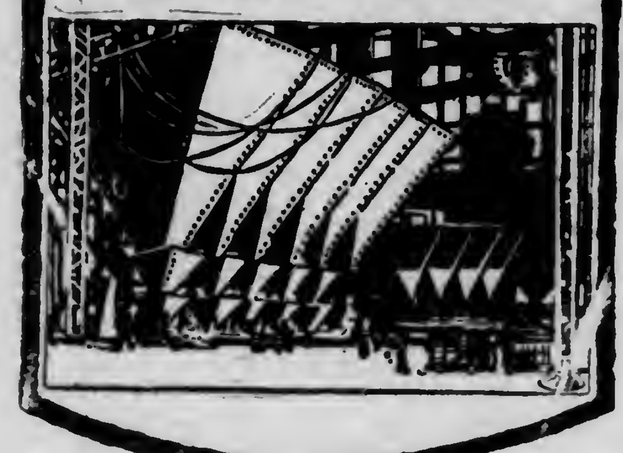

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Notes on Fruit Marketing—I

Factors Influencing Size, Color and Quality

By DR. J. P. STEWART, State College, Pa.

Successful marketing of fruit depends in large measure upon the appearance and condition of the fruit when it reaches the consumer. These features in turn are dependent chiefly upon the size, color and carrying qualities of the fruit, and on the way the final product is handled, transported and packed. Some of the studies and observations of the writer bearing on these points are as follows.

Factors Controlling the Size of the Fruit

Studies extending over ten years and involving all the principal cultural methods and fertilizer elements have indicated that, under normal conditions, the chief influence controlling fruit size is the amount of moisture available per individual fruit. This is naturally evident from the fact that the apple is made up of water to the extent of about 85 percent on the average. Cultural treatments which conserve the moisture, renewal pruning, thinning of excessive crops, and the attainment of full maturity on the tree are, therefore, the chief means of maintaining or increasing the average size of the fruit in any given variety.

After these conditions are met, some additional benefit can often be obtained by plant food applications, of which stable manure, potash and nitrogen have proved most efficient, in the order stated. The control of fruit-dwarfing insects, such as red-bug, is also evidently important whenever it is present. In increasing the size of the fruit, thinning is only important when the size of the crop on the tree is quite large. Failure to realize and act upon this fact is probably chiefly responsible for many of the failures to secure any marked increase from this practice.

Factors Influencing Color In Apples

The desirable color in apples are chiefly the yellows and reds. From the physiological viewpoint, the former color is connected with colored bodies in the superficial layers of cells. It develops without regard to the light, and its intensity depends merely upon the degree of maturity attained, either on or off the the tree. The red, however, is a constituent of the cell sap, and its intensity is dependent almost entirely on the amount of sunlight received during the later stages of maturity.

To determine whether anything else was involved in this development of reds within a given variety, and especially to determine whether these colors were dependent on anything contributed by the sap from the tree, a test was once made by the writer on an average lot of York Imperials after they had been picked from the tree. The fruits involved were separated into four lots of equal size, the division being made so that each lot contained practically the same amount of color at the beginning of the test. These lots were then grouped into two pairs, one of which was arranged to test the effect of exposure to sunlight and the other the effect of electric light. In each pair, one of the lots was thoroughly darkened, and all other factors were kept essentially uniform.

The results in brief were that the apples exposed to sunlight increased in redness by about 35 percent while none of the others showed any visible gain. There was some slight increase in the apparent brightness of the reds in some cases—due largely or wholly to a sharper contrast with the yellow colors which had come up in storage—but no increase in extent. These results therefore demonstrated beyond peradventure that the dominant influence in the development of red colors in apples is sunlight and hence that no important increase in these colors can be expected after the fruit is removed from the trees and properly placed in storage under normal conditions. The securing of sufficient sunlight and proper maturity of the fruit before picking, therefore, are the chief practical means of improving the red colors in the fruit.

Factors Influencing Carrying Quality

Some important data on this subject were once secured by the writer in connection with a spraying experiment on peaches. This experiment was made primarily to study the causes and prevention of spray injury, but some incidental studies were also made on the relation of some of the applications to the carrying quality of fruit.

In making the test, some 15 baskets of fruit were selected from each of the treatments indicated in the following table. This fruit without further spraying was placed in a car of peaches from the same orchard, for shipment to DuBois, Pa. The test proved to be unusually severe, as the car was left un-iced and unventilated, and it failed to reach its destination until after three days of very hot weather, from time it was picked. The sprays involved and the condition of the fruit when examined are shown in Table I.

Table I. Effect of Different Sprays on Carrying Quality of Peaches

Plot	Treatment	Hours between shipment and examination	Percent rotted
3	Self-boiled lime-sulphur and lead arsenate	52	19.9
4	Dilute lime-sulphur and lead arsenate	53	47.0
5	Dilute lime-sulphur and lime arsenate	51	14.3
11	Dilute Bordeaux and lead arsenate	49	34.3
13	Check	50	100.0

The unfavorable conditions of shipment and the resulting rapid respiration of the fruit combined to produce a perfectly stifling heat in the car and furnished ideal conditions for rot. The result was that every fruit examined in the unsprayed lot had developed rot when the conditions were not noted after the interval indicated in the table. Some of the sprayed fruit, on the other hand, under exactly the same conditions of shipment, showed only 14.3 percent of rot in one case and 19.8 in another. This remarkable effect of the spraying would evidently justify the practice, if it accomplished nothing else. Proper spraying therefore may be definitely included among the chief influences for improving the carrying qualities of fruit.

Other important influences in this connection are picking at the proper stage of maturity, prompt cooling of the fruit after picking, avoidance of all bruises and skin punctures, and proper refrigeration and ventilation in transit. The latter points are especially important in the case of citrus fruits.

INSECTICIDE NEEDS

The U. S. Food Administration is taking active charge of the insecticide situation. It is making a survey to determine the amount of stock on hand and will publish same. It asks that farmers and extensive users of insecticides report any attempt to charge unreasonable prices or any effort to force buying by reports of shortage of supplies. It also asks farmers' organizations to arrange to buy in car lots where possible and avoid splitting orders into small lots. Here is a chance for horticultural societies, potato growers' associations and other farmers' co-operative associations to buy direct and save money. For names of wholesalers, address Division of Chemicals, U. S. Food Administration, Washington, D. C.

FUMIGATION WILL KILL FLIES IN GREENHOUSES

The white fly, one of the most widely distributed and injurious greenhouse insects, can be controlled by fumigation with hydrocyanic acid gas. These white-winged insects are about one-twentieth of an inch long, but by their numbers and habits of feeding have been known to cause thousands of dollars' damage in single greenhouses.

Cucumbers and tomatoes suffer most from their attacks, altho other vegetables and flowers are also injured. As many as 60 kinds of plants have been victims of attack by white fly, or mealy wing, as it is also called. Affected plants become blackened by a fungous growth which develops in a sticky liquid exuded by the insects.

The gas evolved when an ounce of potassium cyanide is put in a mixture of two fluid ounces of sulphuric acid and four fluid ounces of water will kill all white flies in a thousand cubic feet of space.—Ohio Experiment Station Circular.

FARMERS' WEEK AT PENN STATE

Farmers' week at The Pennsylvania State College this winter will be reduced to four days—Dec. 26, 27, 28, and 29, 1917. But in order to make these four days count for the most each division of the Agricultural school will conduct a special four-day program. The Vegetable Gardening division has arranged a program that will be of interest to market gardeners, home gardeners, farmers and war gardeners. It will be in a sense a short course in Vegetable Gardening. The list of topics to be discussed and the speakers follows:

Saving Vegetable Seed, J. S. Gardner; Practice of Seed Sowing and Transplanting, J. R. Bechtel and J. S. Gardner; Growing Vegetable Plants for Transplanting, J. S. Gardner; Fertilizing Vegetable Crops, C. E. Myers; The Early Vegetable Garden, J. R. Bechtel; The Late Vegetable Garden, J. R. Bechtel; Experiments With Asparagus, C. E. Myers; Cultural Methods With Beans, J. R. Bechtel; Growing Celery for the Local Market, W. H. Weinschenk; Onions from Seed, Sets and Transplants, W. H. Weinschenk; Experiments in Tomato Breeding, C. E. Myers; Local Organizations of Vegetable Growers and their Possibilities, R. L. Watts; Lessons in Marketing Vegetables, W. H. Weinschenk; Storing Vegetables on the Farm, J. S. Gardner; The Outlook of Vegetable Forcing in Pennsylvania, R. L. Watts; Diseases of Garden Crops Common in 1917. E. L. Nixon; Garden Insects Common in 1917, C. H. Hadley.

A complete Farmers' Week Program can be secured by addressing the Department of Agricultural Extension, State College, Pa.

A special feature in connection with this program will be an Education Exhibit. Pennsylvania growers are urged to send in specimens or collections of vegetables for this display. As you get out those 'specially fine vegetables for the Christmas trade—pick out a few specimens to bring along to State College! And if you can not come yourself, you can at least send some of your products. Express them collect to the Department of Horticulture, State College, Pa.—J. R. Bechtel.

INTENSIVE HORTICULTURE NEEDED

Some years ago the Pennsylvania Railroad Company sent a couple of private cars, with plenty of food, cooks and waiters, and invited several of us to take a ride over their system of roads on the Peninsula from Wilmington to Cape Charles, and to advise them what the Company could do to benefit the farmers. The fact is that the branch roads radiating from the Delaware road to the Bay and sea are largely engaged in growing wheat and corn and shipping these by sailing vessels to Baltimore and Philadelphia, and the road wished to get more interest taken in the perishable crops that the Railroad would have to handle.

After three days spent in riding and examining all the sections we gave individual reports and advice. I suggested that the best thing the road could do for the people engaged in the production of the perishable crops of small fruits and garden truck would be to get a small tract of land on the lower section of their main line, and equip it fully with large greenhouses, such as are used so extensively along the Lake Shore region at Toledo, Cleveland and Ashtabula, Ohio, and equip them for winter forcing of tomatoes and cucumbers. Then to put the houses in charge of an expert in winter forcing, and make them pay, and then bring excursions of farmers there to see how it is done.

I told them that we had many advantages over the Lake Shore in a milder climate in winter and especially in the far greater amount of sunshine in winter, for I once told the Cleveland gardeners that I had often been there in winter but had never seen the sun shine there in December and January, while with us we have far more sunny than cloudy days.

Well, the railroad did buy a piece of land at the lower end of Delaware, the poorest piece of land in all that section, and they built a little greenhouse about big enough to start tomato plants in spring, but totally useless for winter forcing. The land has been devoted in a perfunctory sort of a way to plot experiments in the open ground, and has never amounted to the famous row of pins.

It has always been a wonder to me that some one has not started the intensive work under glass here and Southward. Some of the Norfolk growers do good work on a small scale in hot bed and cold frame cultivation, but, so far as I have observed, there are no vegetable forcing houses about Norfolk, the most favorable locality for them in the east.

Down in North Carolina, Mr. Leonard Tufts, the owner of Pinehurst, the noted North Carolina winter resort and golf playing courses, built some forcing houses primarily to supply his hotels. In his father's time, I had been furnishing the place with cucumbers and tomatoes in winter from the experimental houses of the Station at Raleigh. Mr. Tufts got a skilled man from the Arlington section near Boston, and he has not only supplied the hotels with lettuce, tomatoes and cucumbers, but has shipped north as fine products as are grown about Boston, and has done it at far less expense in coal, for the lettuce there needs no greenhouses—only a cold frame—while the sunshine enables him to grow successfully the midwinter crop of tomatoes and cucumbers.

Pick Apples With Upward Twist

The lower part of the Maryland-Delaware peninsula is invariably suited to this intensive winter work, and were I a young man I would launch into it. Our people grow fields of late tomatoes for the canners, and they grow fields of cantelopes and winter melons, but have never realized what can be done on a small area with glass and heat. I know one man at Cleveland who has never had but 12 acres of land, half of which is now covered with glass forcing houses, and he gets a clear annual income of not less than $10,000 a year from his vegetable crops. There are others doing similarly well all along the Lake Shore region from Michigan to New York, and here, near the great eastern markets and with a far more favorable climate, we ought to be able to beat the Northern growers.—W. F. Massey, Wicomico Co., Md.

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WHEN corn was selling for 50 cents a bushel, one of our dealers made this offer to a skeptical farmer: "Use this manure spreader to top-dress 20 acres of your 40-acre corn field, putting on eight loads to the acre. Leave the other 20 unmanured as you meant to do with the whole 40. I will take the difference in the yield between the two 20's for the spreader." The farmer agreed, thinking to get his spreader at a low price.

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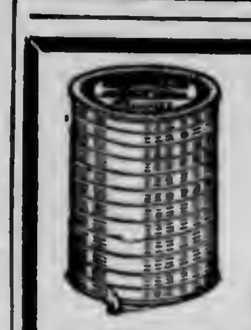

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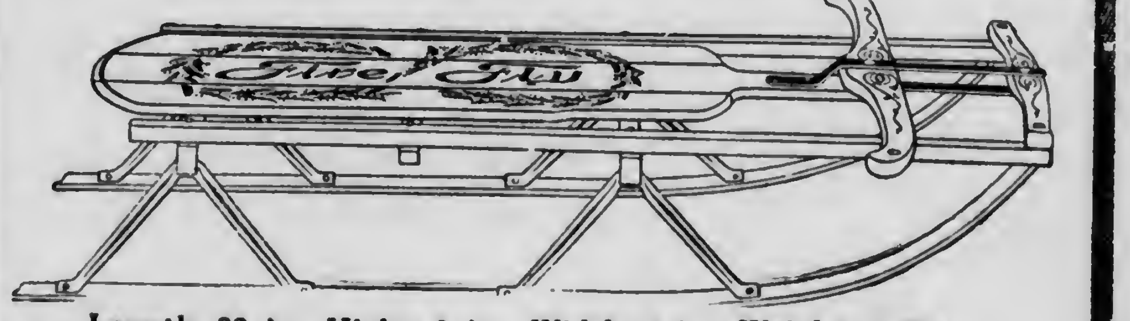

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Poultry

HENS OR PULLETS?

There is a wide difference of opinion among breeders and farmers on the subject of substituting pullets for two-year-old hens—whether it is cheaper to keep a hen three years or to remove her and fill her place with a pullet. It is claimed by those who favor substituting pullets for hens that each hen loses about three months in molting; she produces fewer eggs the third year; that she fattens more readily than the pullet, and that she is more disposed to become broody. On the other hand, it is claimed for the hen that it is the general habit for her to reduce her production of eggs according to her age, up to three years of age, at least, and that farmers in particular prefer hens to become broody, in which case broodiness is not a fault. In spite of the immense number of incubators that have been manufactured and sold during the last ten years, it is a fact that the bulk of the poultry on the farms is still hatched and reared by hens. Even on those farms where the incubator is used early in the season, it is discarded when the warm weather comes and large numbers of chicks are then hatched by the natural method.

Another claim in favor of the hen over the pullet is that the latter must be allowed nearly a year for growth, and she may not lay an egg until fully matured. Comparing the services of the pullet about a year old with a hen two years old, keeping each a year longer, the hen should produce more eggs than the pullet during the two years, because she has a year longer in which to perform her work. From the time she is hatched until she is three years old, all conditions being favorable, a hen should lay twice as many eggs as will have been laid by a hen that is two years old at that time, simply for the reason that the two-year-old hen must lose the first year. While it is true that the two-year-old hen has to pass thru the growing age during her lifetime, the question to consider is, now that she is on hand, whether it is more profitable to keep the old hens for next year or substitute pullets. The older hen, provided she is a prolific one, the lower the first cost of producing her. If she is three years old she produces eggs twenty-four months out of thirty-six, or two thirds of the time, while the two-year-old hen produces eggs only twelve months in twenty-four, allowing that each begins to lay when one year old, tho some pullets commence laying much earlier than this.

Breeders and farmers are united, however, in admitting that the laying qualities of each individual hen should be considered in determining the course to follow; it is never advisable to get rid of a good layer, no matter how old she may be. Even for breeding purposes the best old hens in the flock—those that are strong and vigorous—may be superior to pullets. There are certain principles and natural laws that should be observed in selecting next year's breeders. Only the strongest and most vigorous fowls should be used in the breeding pens. And the most practical way for the common poultry raiser to select his breeders is by observation. Trap nests and other careful details are not extensively employed on the farms where poultry is not made a specialty; hence the only method left of selecting the best fowls is to combine good judgment with such observations as are possible. The farmer poultryman will often notice that certain hens produce eggs a good while in the spring, after which they cease laying and take a rest for several months. At the same time other hens of the flock will be noted as steady but their periods or rest are short, hence in the long run they outstrip the hens that start in and produce a few dozen eggs without missing a day and then suddenly cease laying and take a resting spell of several weeks or even months.

The hens that are always hungry and ready for their feed are the ones that lay the most eggs and the ones that make the good breeders. These hens come first at feeding time and linger till the last, yet tho they eat the most they do not become overfat. These few points even the farmer poultryman will notice if he gives his flock the average amount of attention. Certain physical qualifications are also to be considered in selecting the breeders. Some of the characteristics of good breeders are a rather wide, deep body in the rear, an active carriage, a large full eye with a bright color and a healthy red face, wattles and comb. Two-year-old hens will often meet all of these requirements, hence they may profitably be retained another year. Experienced breeders are now pretty generally united in demanding that at least one side of the breeding pen shall be two years old or more. Better results in strength and vigor of offspring are obtained from early-hatched, well-matched cockerels and old hens. If it is necessary to use young females, then old cock birds are to be preferred.—Wm. F. Purdue.

PREPARING THE BEES FOR WINTER

The time is now at hand to prepare the bees for the coming winter. Unless the hives are sheltered against strong winds and some protection is given above the cluster the colonies will be so reduced in size the following spring, if they survive the rigors of winter at all, that the prospect for a honey crop is very slim. First of all, the presence of a laying or fertilized queen must be ascertained. If drones are still present at this time it is a pretty sure sign that the colony is not queen-right. It is, of course, now too late to rear a young queen and almost impracticable to introduce one that might be procured from a queen breeder. It is best to unite queenless and weak stocks with some other weak but queen-right colony. The weak colony will very likely be clustered between two frames. Remove the frames from the hive into which the queenless bees are to go. Hang the two frames with bees into the empty space and the job of uniting is done. There'll be very little arouble from fighting if the weather is cold.

In Northern latitudes single walled hives, if kept outdoors during the winter, are best wrapped with several thicknesses of newspapers and then covered with tarred felt on all four sides. Before the wrapping is done the cover should be removed and a chaff cushion put on top of the frames. A few sticks under the cushion will allow the bees to pass from one frame to another above the frames. If no such passage is provided the bees are compelled to pass under the frames, where it is cold. Thus many bees never reach the cluster again and die. A super cover or bee-escape board which was put under the last super may be left on the hive after replacing the escape with a piece of section or a strip of cloth. Such a board gives the bees the best chance to cluster over the frames right under the cushion where it is the warmest. After trying cushions with sticks, super covers and escape boards, or so-called sealed covers, I find the latter the most practical.

In regard to the question of temperature I might say that beekeepers, who practice cellar wintering, are not so much concerned about the exact degree at which the thermometer stands, so long as it does not hover around the freezing point or rise above 50 degrees. Anyone can understand that as soon as the cellar becomes warm the bees will want to fly out and many a colony has been ruined thru lack of ventilation at the proper time.

The chaff-hive that remains outdoors all the year round is still the standby for the farmer beekeeper. It ought to be raised from the ground several inches and put in a sheltered place. A leaky roof on a beehive, as well as anywhere else, is an abomination. Bees can stand a good deal of cold but not dampness. Be sure that the roofs or covers are tight to exclude the weather as well as the mice which certainly will find their way in if any opening is left for them. Provide a cleat, or two entrance blocks, on the alighting board so as to reduce the size of the entrance to four inches in length and about one-half inch in height. From time to time the dead bees that accumulate on the bottom board should be raked out with a crooked wire. Some beekeepers insert a sheet of paste board or tar paper the full size of the bottom board. When this sheet is drawn out the bottom board is cleaned without disturbing the bees, besides an opportunity is afforded the thoughtful beekeeper to inspect the accumulations and to draw conclusions as to how the bees are wintering.

The amount of stores a colony needs to get thru the winter in good condition varies according to the size of the colony and the protection it has during the cold weather. The general rule is from 20 to 25 lbs. Four frames of good honey, two on each side of the cluster, usually bring the colony thru the winter. In the cellar the consumption is much smaller than outdoors. After a poor season, stores must be provided in the form of syrup made of granulated sugar in the proportion of half water and half sugar. It is immaterial what kind of a feeder is used, just so the feeding is done early enough so that the bees are able to get syrup into the combs ready to seal it.

In my travels up and down the country I find among the farmer beekeepers much neglect of our good friends, the bees, and I wish to take this opportunity in our excellent paper the "Pennsylvania Farmer" to speak a kind word for the bees as I feel the winter coming on. Don't neglect or kill the goose that lays the golden egg.—C. T. Ohlinger, Dorchester Co., Md.

The Call For More Pork

With Urgent Demand and an Insured Price Every Sow Should be Bred

By GIFFORD PINCHOT, Pennsylvania.

This war will be won by the whole American people working together. Many things are necessary to win it, but food comes first. The food needed for our Allies and ourselves can be produced only by the good will and voluntary labor of the men who grow it. For the farmer, who feeds us all, can neither be commanded nor compelled. He, more than any other man in the Nation, is his own master and does what he thinks is right.

We often hear that Pennsylvania has the banner agricultural county of the United States, but we do not always remember that the largest farm population among the states is ours, except for Texas only. Supremely great as Pennsylvania is in her industries, we must not forget that in agriculture also she is among the greatest, and able to render incalculable and indispensable service to the Nation in the world war.

I appeal to the farmers of Pennsylvania to support the government with every pound of food they can raise, and so help to bring the war to a prompt and victorious end. I make this appeal with full confidence in their patriotic desire to support the government in this great struggle, and to leave nothing undone that will help us to win the war.

Not all food is equally important. Until recently wheat was the most needed. Now, however, the wheat question has been answered, and we are likely to have all we need next year. But we are going to require more animal products, and especially more pork. The hog offers the quickest way to get meat, and in particular to get fat; and fat is a necessity. The shortage of fats among the Germans is more dangerous to their military strength than all their other food troubles combined, and will have more to do with weakening their resistance to the armies of democracy.

The world is short of hogs. It is estimated that there are 30 million less hogs in the world than during normal times. On September first of this year, we had in the United States only 60 million hogs as against 65 millions a year ago—a decrease of nearly 10 percent. By January first, 1918, it is estimated that the shortage will be 20 percent. Moreover, the Food Administration has told us that next year we must have 15 percent more than our normal production in order to meet our own needs and the needs of the men who are fighting in France. That makes in all 35 percent below the known requirements of the coming year.

The threatened shortage in pork, which is fully as important as a shortage in guns or ammunition, can be met only by the voluntary action of American farmers. This is the patriotic service for which I appeal to the farmers of Pennsylvania. To raise 10 million hogs more than have ever been in the United States at one time is a gigantic task, but it it is as necessary as it is gigantic. Pennsylvania farmers will certainly raise their share.

The government has a duty in this matter no less than the farmer. It is no more than fair that the government should protect the farmer against losing his time and labor when the farmer safeguards the Nation against the lack of food. Thanks to the protest of the farmers themselves, acting thru the Federal Board of Farm Organizations, the government is now fully alive to the vital necessity of an adequate supply of farm labor to insure the increased production it asks. The new draft regulations will keep more farm labor where it can do the Nation most good—on the farm.

The National Food Administration has guaranteed the farmer a fair price for all the pork products bought for our government, for the governments of our Allies, and for the neutral countries. That and the known shortage in pork products will help to guarantee a fair price for all the rest. I am not asking that the Pennsylvania farmers should raise hogs at a loss. Far from it, for it is certain that this great service to our country can be rendered wholly without loss to farmers and with a reasonable return. We know that the world will need all the hogs that can be grown in the United States during the coming year, and will be ready to take them at a fair advance above the cost of production. And this is true whether peace comes by victory next year or not. The only effect of victory would be to open the markets of Germany and Austria, both very short of fats, to the American farmer, and add their demands to the demands of our own people and our Allies.

Prompt action is most necessary. The breeding season for hogs is upon us. Every farmer in Pennsylvania ought to breed every gilt and sow he has, raise every pig born this fall and next spring, and feed them to a weight of not less than 225 pounds. Hogs marketed this fall should also be fed to that weight or over, for the total supply of pork products will thereby be increased. In Pennsylvania we have, unfortunately, much soft corn, which we can feed while it lasts. Other feed is abundant, and not too high in price, compared with the price of finished hogs. There is every reason why the farmer should raise every pig he has, both for his own sake and for the sake of the Nation.

The food problem, which is the fundamental problem of the war, can be met only by the regular farmer. However commendable amateur efforts may be, they never can and they never will supply our armies or our Allies abroad. Only the farmer can do it, and the responsibility rests with him. The farmer is a trained man. He works for less pay than any other man of equal skill, and with a smaller margin. He knows that large crops have in the past usually meant small profits, and small crops large returns. But now the Nation calls, and the farmer will not fail.

Altho the farmer is seldom the man to begin a fight, he is usually the last man to quit. The farmers of Pennsylvania will not quit at all. They will accept the duty which the great war imposes on them, and stand behind the cause of liberty with their products as they have always stood behind it with their arms and hands whenever the summons came.

INTERNATIONAL LIVE STOCK SHOW

The International Live Stock Exposition of 1917 exceeded all previous records. The attendance was fully up to past standards and the number and quality of exhibits were conceded to be the best. There had been some concern over the loss of "quality" because of the lack of recent importations, but the show fully demonstrated that the American breeder may be depended upon to provide a high class stock of all classes as were previously brought in from abroad. It is likely that the exposition this year marked the turning point of the breeding business. With the advances made by the American breeders and the losses sustained by the European breeders, we may look for a reversal of previous conditions and for the future demands to be made upon the Americans to furnish the cream of the breeding stock in practically all classes. In horses, beef cattle and sheep the best of the International this year was American bred stuff. In hogs we have long been the leaders.

The Monarch of the International is always the Grand Champion fat steer. The honor was won this year by Merry Monarch, a purebred Shorthorn fed and bred by Purdue University of Indiana. The champion was sired by the University Shorthorn bull, Lavender Sultan and out of Lavender Angeline, a member of the University herd. He weighed 1,610 pounds and was auctioned off at the record price of $2.10 per pound, bringing $3,381. Purdue University made a new record for the show by winning all of the fat stock honors with a herd of twenty Shorthorns, all sired by the wonderful Lavender Sultan.

SHEEP CLUBS

An Opportunity for Boys and Girls

The More Sheep-More Wool Association of the United States is making attractive offers to boys and girls of rural sections in starting sheep clubs. In addition to giving the boys and girls an opportunity to make money in the growing of sheep, this work promises to be a big factor in introducing sheep into new territory. The club plan has the additional feature that it starts the grower on a small scale, encouraging the club members to take but one animal and thus utilize the material that would in most cases go to waste.

The form of contract entered into by club members obligates the member to buy a bred ewe at an agreed price, giving a note at a low rate of interest, care for the ewe according to the rules of the local club, to breed the ewe each year to a purebred ram and keep all lambs dropped until they are properly weaned, to pay annual interest on the original price together with a small sum on the principal which will extinguish the purchase price in an agreed term of years. When all of the principal sum shall have been paid, the ewe and all of the increase becomes the property of the club member.

A local sheep club is required to supervise the transaction and help in directing the care of the sheep. For full information address Pres. A. C. Bigelow, 53 S. Front Street, Philadelphia, Pa.

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Marketing Farm Products---IV

Results of an Investigation Conducted by Rex Tugwell

Average Retail Prices in Philadelphia

The following tables are intended to show: 1. The method for gathering prices for this investigation. 2. The actual comparison of retail and jobbers' prices—showing the margin of profit of the retailer of perishables.

It might be said here that of the 33 cases in which actual tracing took place from farmer to consumer, 26 were cases in which produce was sold on consignment direct from the farmer by the jobber. In two others, selling was on consignment from shippers at country collection points who had bought from the farmer. The other five only were cases in which the jobber actually bought and sold the produce.

In these cases only, then, was there an opportunity for excessive jobbing profits and in these cases the increment of price absorbed in the hands of the jobbers averaged 36 percent. In the consignment cases, however, only the commission for selling remained in the hands of the first city middleman. But it must be remembered that this investigation covered for the most part only perishables and was made at a time of the year when jobbers do the least buying and selling. At the height of the season for fall fruits and produce and at the time of storage for winter, hundreds of tons will be bought to be stored and held for the rise which almost invariably comes during the months of winter and early spring.

In Table III the range of jobbing prices for four days is given. These days correspond to those on which the average differences between jobbers' and retailers' prices appear in Table IV.

Philadelphia and Pittsburgh Compared

The following, (Table V) shows the average difference between jobbing and retailing prices for the twelve perishable commodities in Philadelphia and Pittsburgh. These were determined by the method shown in tables II, III and IV. Retail jobbers' averages were taken on the same day for four days, grading being carefully done. These were then compared to determine the increment of price added by the retailer.

A study of this table—and recall that in 26 cases out of 33 traced, this class of produce was sold on consignment—will convince, I think, that the problem so far as these summer perishables is concerned lies in the retailing. The grocer gets the profit.

Note.—The Philadelphia column is carried over as the average of the four difference columns in Table IV. A similar table for Pittsburgh has been omitted, since the result of the calculation appears in the Pittsburgh column above. The figure was arrived at in the same way as the Philadelphia average differences shown in table IV.

The average column above is taken by averaging both Philadelphia and Pittsburgh differences. Figures for smaller cities were too fragmentary to be of value because of the smallness and irregularity of the jobbing markets and trade.

The grocer takes the risk of spoilage, carries a great overhead expense and gives greater service than the consumer can justifiably demand. Perhaps he is entitled to this profit—certainly he is if he can pass the blame along to the consumer; but it goes to him and now, in this case at least, to the jobber and commission man.

General Conclusions

The general conclusions to be drawn from the results of this part of the investigation seem to me to be as follows:

I. Because of the time of year and because of the classes of produce traced, this part of the investigation fails to show: a. The relative amounts of produce handled by commission men. b. The number of hands staple farm products pass thru ordinarily. c. Price additions to these important commodities at each step, farmer to consumer.

Table III
Range of Jobbing Prices for Days When Averages Were Taken—In Cents

		1	2	3	4
Tomatoes	5/8 bu	60-75	50-100	40-70	40-75
Carrots	¼ pk	3-5	3-6	4-7	3-6
Peaches (white) (yellow)	5/8 bu	60-90 25-80	60-110 35-75	50-150 35-60	45-135 35-60
Cantaloupes (Cal.) (home)	Crate Each	225-325 1.7-3.5	220-290 1-3	250-300 1.4-4	230-290 1.3-3.2
Egg Plants	Apiece	1-1.5	1.1-1.8	1-1.7	0.8-1.2
Cucumbers	5/8 bu	15-50	15-40	35-60	25-60
Green Peppers	5/8 bu	20-25	15-20	18-23	18.2-24
Potatoes	bbl	250-350	275-325	275-325	270-325
Onions	5/8 bu	75-95	75-95	70-98	74-96
Cabbage	5/8 bu	25-35	30-35	30-35	30-35

Note — The range of prices is shown so that the point of bulk of sales may be found and to preclude criticism on the basis of insufficiency of evidence of the jobbing price.

Table IV
Retail Prices Compared With (same grade) Wholesale Prices for One Day—In Cents

		First Day			Second Day			Third Day			Fourth Day		
		Re-tail	Whole sale	Diff.	Re-tail	Whole sale	Diff.	Re-tail	Whole sale	Diff.	Re-tail	Whole sale	Diff.
Tomatoes	5/8 bu	85	65.	20	90	62.8	22.	2.5	62.5	20	85	63	22
Carrots	¼ pk	8.8	3.5	5.3	10	4.7	5.3	8.6	4.7	3.9	9	4.6	4 4
Peaches (white) (yellow)	5/8 bu	58.8 95	35. 70	23.8 35	87 100	60.5 75	27.4 25	88 94	50.2 65	37.8 34	86 93	40.1 45	45.9 37
Cantaloupes (Cal.) (Home)	Piece	11.25 6.6	7 2	4.25 4.6	13 7.5	6.2 1.6	6.8 5.9	12.5 5.4	7.1 1.7	5.4 3.7	18 7.3	7.8 1.4	10.2 5.9
Egg Plant	Piece	5.8	1.5	4.3	7.3	1.7	5.6	8.3	1.3	7	5.5	1.4	4.1
Cucumbers	Piece	2.6	.4	2.2	1.8	.2	1.6	3.3	.2	1.7	2.8	.35	2.45
Green Peppers	Doz.	11.25	3	8.25	11.75	4.7	7.05	17	4	13	14	4.1	9.9
Beets	Bunch	4.8	3	1.8	3.9	2.6	1.3	4.7	2.5	2.2	4	2.3	1.7
Corn	Doz.	21	7	14	20.6	13.2	7.4	23.4	13.1	10.3	24.2	8.9	15.3
Potatoes	Peck	45.8	39.2	6.6	45	34	11	47	32	15	48	33	15
Onions	Peck	47	37	10	47	36	11	53	36	17	52	36	16
Cabbage	Head	6.8	2.5	4.3	7.1	2.3	4.8	6.8	2.4	4.4	7	2.1	4.9

Note.—Average jobbing prices were taken by observing the price at which the bulk of sales took place for a particular grade of a commodity. There is considerable probability of error in this figure. Its accuracy depends upon the experience and judgment of the person making the average and upon his knowledge of the market and his ability to grade farm products with skill and definiteness. The range of jobbing prices is shown in Table III. The range figures are the upper and lower limits of sales for the day.

Table V
Average Difference Between Jobbers' and Retail Prices—In Cents

		Phila.	Pittsburgh	Average
		cents	cents	cents
Tomatoes	5/8bu	21.05	68.8	44.9
Carrots	¼ pk.	4.725	6.1	5.4
Peaches (white) (yellow)	5/8bu	35.25 33.725	47.3 44.525	41.3 39.1
Cantaloupe (Cal.) (home)	Piece	6.7625 7.525	5.775 6.325	6.3 6.925
Eggplant	Piece	5.25	8.4	6.8
Cucumbers	Piece	1.9625	2.125	2
Green Peppers	Doz.	9.55	12.8	11.2
Beets	Bunch	1.75	2.46	2.1
Green Corn	Doz.	11.75	13.9	12.8
Potatoes	Peck	11.675	22.1	17
Onions	Peck	13.5	19.725	16.6
Cabbages	Head	4.6	6.3	5.4

These important facts will, however, be studied under the permanent provisions of the investigation.

1. By price levels for farmers and consumers, statistics of which are to be permanently kept in the office of the Pennsylvania Farmer. I have appointed representatives in some instances and the Pennsylvania Farmer in others to insure permanent and trustworthy reports. These will be published from time to time and will form an enduring body of facts, pointing out the angle of difference between producers' and consumers' prices. It is my opinion that the efficiency of our distributive system can be measured by them.

2. By further researches to be carried on by students of the Wharton School of the University of Pennsylvania under the direction of Dr. Clyde L. King.

II. This investigation does point, however, to several important facts.

1. Produce sold by the farmer is invariably graded to a greater or less extent. By the time it reaches the consumer, if it passes thru the hands of one or more middlemen, these grades have disappeared.

2. The consumer is appallingly ignorant of marketing conditions. He accepts inferior produce at extremely high prices. He appears to care more for the quality of service than for the quality of the food; this appears in the relatively greater amounts sold by grocers and others having telephone and delivery service. The amount of produce sold direct in Pennsylvania is relatively small.

3. The consumer loses thru buying by the package rather than by weight. For most produce sold by weight (onions are an instance) there are less additions to the original price.

4. Public markets are hopelessly inadequate in this state. There is no interest on the part of city officials and no intelligent scheme for their supervision and operation.

5. There is much needless crossing of channels of trade. Produce travels too far. There were Bartlet pears from five states—Atlantic to Pacific—in the Pittsburgh market in one day. They were of similar quality. California fruit competes successfully with Pennsylvania fruit in Pennsylvania markets, due to superior grading and packing and the rigid exclusion of culls.

6. The average service charge of retailer is far too high (shown in Table V), ranging from 44 cents for ⅝ bushel of tomatoes to two cents apiece for cucumbers.

7. Commission men do not buy and sell this class of produce, preferring to handle it on commission because of its perishability and the low profits involved. They deal and speculate only in later produce that can be stored and held for a rising market.

8. If governmental price control is to be effective it must be extended to the retailer; and pressure must be brought to bear to break down irrational diet tendencies as well as the wastes and service demands of the consuming public.

9. An extension of the investigation showed that chain stores in Philadelphia and Pittsburgh were underselling all other city retailers from seven to ten percent. They are on a cash basis, buy in large quantities and have cut city delivery service to a minimum.

Let Legumes Work for You.—The farmer who grows no legume crop misses profits every year. Legumes not only add nitrogen to the soil but also add organic matter which makes the soil mellow, easily worked and friendly to plant and bacterial life.

The Voice of the People

This department is reserved for use of our readers to discuss problems and matters of general farm interest. Write your views and comments briefly on any question of social, economic or educational importance and thus share them with others. Such articles should not exceed 200 or 300 words. Publication of such articles does not signify editorial endorsement or agreement.

THE HUNTER NUISANCE

About this season of the year one of the worst pests the farmer has to contend with makes his annual appearance. He usually comes from the wooded or rear side of the place; very seldom if ever by the front way. Usually the man that approaches by the front gate and asks for the privilege of gunning on your farm is so much of a gentleman and a square sport that it is safe to grant him the privilege merely on his honor.

The federal and state departments of agriculture put out many thousands of bulletins annually and distribute them among the farmers warning them against many different plant diseases and destructive insect pests. This is done at considerable expense. Yet these pests are not half so destructive or annoying as the gunner pest which I have never seen condemned in print except in such out-spoken champions of the farmers' troubles and pleasures as Pennsylvania Farmer and Rural New Yorker.

I want to tell how I try to give a square deal to the honorable sportsmen (there are a few) and also look out for my own interests. It takes plain talk to do this and retain the respect of your neighbors. Mr. Jones may be my neighbor. He has a city friend that he wants to treat to a day of gunning. He has some hunting on his own farm and knows that there is some rather good hunting on my farm. Wanting to give his city friend something to shoot without going beyond his overfed ambition, he comes to me. He perhaps arrives by the front way in a six cylinder car. After his usual introduction he makes his wishes known. I have learned to reply about as follows:

"Yes, you can gun on my place except in a certain wood lot where no one is permitted to hunt. But you must grant me these requests. First, you must shut all gates that you find shut. If you do not the cows may be let into a corn lot and some of them may kill themselves eating from a corn stack or from a heap of husked corn. That has happened in this neighborhood. Second, you must climb fences only where the top rail seems strong enough to bear your weight. It takes a good strong rail to hold a 250-pound bar tender; and he may have cause for legal action should the rail break.

"Aso, I must ask you to be very careful about your matches and cigar stubs. They may start fires in the woods or fields and burn up a few hundred rails for me. Or they may burn off that coat of manure that has been top-dressed on the clover sod. We have considerable corn to husk today and do not want to waste our time fighting fires. Then, too, if you have occasion to tear apart any shocks of stalks or a pile of fence rails to get at a rabbit, put them back as you found them. I expect to use both the stalks and the rails this winter and I do not want to find them scattered or covered with snow when I come for them. Then if you block the cow lane with fence rails I shall expect you to pay me for the time that it takes to repile the heap, and I will turn the money over to the Y. M. C. A. fund.

"And then again, if you go over to neighbor Smith's place, do not come back this way. Smith's hogs have the cholera, and you may bring the germs of the disease over on your boots, or your dogs may bring the disease over. If this makes it impossible for you to return for your car, call me up and I will gladly run it over home for you. I had rather spend my evening in that way than in digging graves in the hard ground for 15 fat hogs and the $2 corn that has been fed to hem.

"These are my full instructions and yours will be the only party with the privilege of gunning on my farm today. If it becomes necessary to lay blame on anyone, I will know pretty nearly where to place it."

With a laugh that sounds half serious and half funny, they are off and I go about my work. As I work I think how I like to see and hear the quail about the fields in summer. I not only like to hear their cheerful whistle, but their notes carry me back to boyhood when the world was no larger than the farm within our line fences, when there were no cares, when there were no soldiers in the trenches in France or elsewhere, when there was no shortage of food and mothers were not saying good-bye to their boys.

I have never pulled a trigger on a rabbit or bird in my life. Yet I think I can recognize a good sport when I see one. I did see one recently. He would only kill four rabbits. Then he would lay his gun aside and just let his dog work. Both he and the dog seemed to get as much sport as tho they were bagging more game. I do not feel that I am selfish in reserving one wood lot from all hunters. I feed the birds there when the snow is deep in winter and if any one is caught gunning in that reserve I will have some more money for the Red Cross if I get my eyes on him.—D. S. Croshaw, Burlington Co., N. J.

FARMER RESPONSIBILITY

Find enclosed check for five-year subscription to Pennsylvania Farmer. I wanted you to stop the paper in the past, but you did not do it. I wanted you to stop it because I felt that it was not fulfilling its mission. I would not now subscribe for it were it not for the fact that it has improved, and I still have hopes that it will improve still more. Get away more and more from the rubbish that the farmer must be continually helped, either thru the State Agricultural College, the farm advisors, the farm agents, or anything else outside of qualifying himself for the most important business of the nation. Inculcate the idea that he must be helped, and you make him incompetent, and you levy on him and his industry taxes to pay those who fatten upon his toil.—James G. McSparran, Lancaster Co., Pa.

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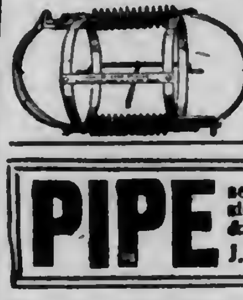

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Household

HEATING EQUIPMENT FOR FARM HOMES

(Continued from Page 2)

manner as a stove, and the water formed in the cooling and condensing of the steam in the radiators is returned to the boilers to be used again and again. An automatic air valve is placed near the top of each radiator to allow any air that may collect to pass out of the radiator. As soon as the air is discharged, this valve automatically closes and prevents leakage of steam. These air valves are necessary because when a radiator becomes filled with air (air-bound), steam will not enter. Similarly, air trapped in steam pipe lines will prevent the flow of steam. Care must be exercised in installing the piping in order to avoid pockets in which air may collect. Several systems of piping for steam heating plants are in use.

Piping for Steam Heat

Single-pipe System.—The common "one-pipe" or "single-pipe" system is illustrated in Fig. 2. Steam flows from the boiler thru the main, M, to risers, R, which are in turn connected by suitable control valves with the radiators, H. The water resulting from the condensation of the steam in the radiators returns to the boiler thru the same pipes, R and M, so that steam flowing to the radiators and water returning to the boiler are both present in these pipes at the same time. The volume of water is small and simply trickles along the sides of the vertical risers and the bottom of the horizontal main. The main, M, must always be so arranged that the return water can flow into the boiler at a point below the water line. The tapping and hammering often occuring in single-pipe steam heating systems, especially when the furnace is being fired up in the morning, is caused by too much water collecting in the pipes and interfering with the proper flow of the steam. More gradual heating up will usually lessen the difficulty.

Two-Pipe Steam Systems

There are several good "two-pipe" or "double-pipe" systems, the most common arrangement for residences being that shown in Fig. 3. Here separate mains are provided; the steam main, M, takes steam from the boiler and delivers it to the steam risers, S, while return risers, R, carry the condensed water to the return main, RM, connected below the water line of the boiler. To control the flow of steam, two valves are required at each radiator, one on the steam and one on the return pipe. The first is used to regulate the steam admitted to the radiator, the second prevents steam from backing up into the radiator from the return mains at times when no heat is desired. This return valve is usually arranged to work automatically. A distinct advantage lies in carrying the steam and condensation in separate pipes, because the system is more positive in its action, and less likely to cause annoyance in hammering.

Vapor Systems

In some double-pipe systems a graduated inlet valve admits steam to the upper part of the radiator. The return pipe leads to a receiver near the boiler, vented to the chimney, and arranged so that the return water is kept comparatively cool. The graduated control valve causes the radiator to become warm from the top downward, so that only as much of the surface is active as is necessary to keep the room comfortable, the remaining lower part of the radiator being cool. These systems are called "vapor systems" and have an advantage over the ordinary steam system in that the amount of heat given off by the radiator can be more closely regulated.

Fuel Efficiency of Steam Heat

In a well-planned and carefully operated steam heating system, about 60 to 70 percent of the heat of the fuel will be delivered by the radiator to the room. A steam-heating plant is more expensive to install than a hot-air plant, but less expensive to operate per efficiency result. Its greatest advantages are the positiveness with which it can be controlled, its independence of wind conditions and its greater cleanliness.

Under-window Radiator—Note Curve and Window Seat Arrangement.

Hot-Water Systems

Hot-water heating systems are similar in general plan to two-pipe steam systems, except that hot water instead of steam is circulated thru the radiators. The usual piping arrangement is shown in Fig. 4. In steam systems the temperature of the surface of the radiator is about 212 degrees, the same as the steam inside, but in hot-water systems the water in the radiators is usually at about 150 degrees to 180 degrees. Consequently larger radiators are required, thus making the cost of hot-water systems about 50 percent greater than that of steam systems. This is perhaps compensated for by the ease with which the radiator temperatures may be regulated in a hot-water system. When the weather is cold the water may be circulated at nearly the boiling temperature while on mild days the water need be only moderately warm. The lower radiator temperature results in a more agreeable quality in the atmosphere of the room. Hot-water plants usually give more even temperatures than steam plants because of the heat capacity of the large body of water contained in the system. But hot-water systems are slower in warming and in cooling down than steam systems.

Hot-water radiators have air valves to remove any air trapped in them just as steam radiators have, and for the same reason. Unlike the two-pipe system, however, a valve is not used at the return connection of the radiator. An important part of a hot-water system is the "expansion tank", E, Fig. 4. This is simply an open tank provided with an overflow pipe, so that the expansion of the water when heated will not burst pipes and radiators. Obviously the expansion tank must be above the level of the highest radiator in the system. It is often placed in the attic, but care must be taken to arrange the connections to the tank so that they will never freeze. If the connection should freeze the tank would be cut off from the rest of the system, and a bursted radiator would be practically sure to result.

Radiators

Radiators for steam and hot water heating systems are usually placed along the wall under windows. In this way the cold air leaking in around the window frames and sashes is warmed before it circulates about the room. If it were not so warmed the tendency would be to cause cold air currents near the floor about the feet of the occupants. The use of the wall space under the windows for radiators is further recommended by its unsuitability for other furniture. There are many kinds and patterns of radiators made to suit different types of building and varying personal tastes. Several of these are shown in Fig. 5.

No attempt has been made in this article to enter into the relative merits of different kinds of furnaces and boilers. In general it might be said that equipment purchased of any first-class reputable dealer, and installed by competent and experienced mechanics, will give satisfactory service. Reliability and convenience are to be sought rather than cheapness in the original outlay.

How to Manage Your Furnace

Some figures have been given to indicate the degree of efficiency that may be expected with the systems described. It should be strongly emphasized, however, that the manner of handling the heating plant after it is installed is of far greater importance than the kind of system in determining the cost of the winter's coal. An experienced furnace man gives this advice:

"A little good judgment mixed with the coal as it goes into the firepot door will reduce the cost of heating the house. Furnaces can be fired in such a way that about all of the heat passes out the smoke pipe, or they may be tended so that a large percentage of the heat is utilized.

Warming Oven Radiator—Suitable for Dining Room.

"When adding green coal do not cover the fire completely. Leave a small spot of live coals exposed. Gases which are given off as the green coal becomes heated will then be ignited by the live embers and produce more heat. Otherwise they escape thru the chimney.

"Keep a deep fire in the firepot. More live coals will then be in contact with the firepot and more heat will pass thru the heating chamber. The top of the coal bed should be nearly level with the firing door. Heated gases will then pass over the top of the combustion chamber before they exhaust. Thus a larger quantity of the heat will be given off.

"Watch the draft. Every furnace has conditions all its own, and they must be carefully studied. If the draft is poor, a window may be opened in the cellar to aid circulation of cold air upward to the fire.

"The fact that some people can maintain a comfortable temperature with 25 percent less fuel than former occupants, leads one to believe that economical firing of coal amounts to more than muscle expended in feeding it in and in emptying ashes."

In addition J. D. Walters, professor of architecture in Kansas Agriculture College, says:

"The smoke pipe should connect to the chimney as directly as possible, for elbows diminish the draft. The chimney flue should have an opening of at least eight by twelve inches, and it is most essential that there be no second opening for either fireplace or kitchen stove. A tightly fitting clean-cut door should be placed at the bottom of the flue

"The location of a hot-air furnace should be somewhat to the north and west of the center of the house, that is, toward the prevailing cold winds. The pipes leading towards the rooms in that part of the house should be given the preference as to shortness and size, altho all pipes should be made nearly the same length. Horizontal runs of pipes should be made as short as possible, especially in those leading to first floor registers. Each room should have a separate pipe as the heat will naturally go to the room where there is the least resistance when the wind is blowing. The pipes should be made of bright tin, and should be covered with asbestos."

For small and openly arranged larger houses, the pipeless or the one-pipe furnaces are giving good satisfaction. But with these it is necessary to leave doors open at least partly. These furnaces are more easily installed in old houses than the many-pipe hot-air furnaces.

Comparative Fuel Efficiency

Ohio Experiment Station specialists say: "Coal can be supplemented with wood from timber areas where waste firewood and weed trees exist, and in this way thousands of dollars otherwise spent for coal can be saved, while the woodlots will improve at the same time.

"Two pounds of seasoned wood is approximately equal to a pound of coal in heat value. A cord of hickory, oak, beech, birch, cherry, hard maple, ash, elm or locust is equal in fuel value to a ton of coal. The same heat value exists in a cord and a half of sycamore, soft maple or hemlock, or in two cords of poplar, catalpa, basswood or white pine as in a ton of coal."

Oyster Pie

Make an ordinary piecrust, or, better, biscuit crust, and put bottom crust in tin and bake. To 1 pint of oysters add butter the size of a small egg, salt and pepper to season, 1 cup cracker crumbs and 1 cup liquor from the oysters. Remove pie from oven. pour in the oysters, put on the upper crust and bake 20 minutes.

State Grange Meeting

Pennsylvania Grangers in Annual Session

The 45th annual session of the Pennsylvania State Grange was held in Williamsport, December 11-13. The meetings were held in Trinity house, which was well suited to the requirements of such a meeting. The first session met at 11 o'clock on Tuesday at which time Worthy Master McSparran delivered his annual message. In it he stated clearly the position of the grange as an organization with relation to the government in the present crisis, and urged all patrons to give of their best in effort and devotion to the great task before the nation.

After reviewing the principles upon which the nation has always acted in behalf of humanity he said:

"In view, therefore, of these facts, it will not do for us to chide the government for mistakes, but rather to lay plans to correct these mistakes and make it possible for our farms to abundantly feed our people and our allies until victory and peace shall come, and 50,000,000 soldiers again practice the arts of peace."

Referring to the need for agricultural co-operation of national scope he criticised the inactivity of the National Grange in these words:

"We are unfortunately handicapped in the consideration of the problems of the welfare in this crisis by the failure of the National Grange to adopt some means of concerted action among the several farm organizations of the country."

In relating the progress and needs of the grange in this state the Worthy Master said:

"In listening to the reports of the several states at the National Grange meeting and comparing the scope of their activities with ours, we are led to the conclusion that we are building upon right lines, and judging from the net gain in membership we are in second or possibly third place in the list of states, having made a net gain of 3,491, including 46 new organizations and two re-organizations.

"There is a tendency in these days of stress to neglect the field meetings of the granges. The attendance this year was below par considerably. It is true that help is scarce and work urgent, but these picnics, if rightly developed, are educational as well as social, and their ability to reach the people of a given community depends upon their becoming annual affairs of note in that community. We feel also that this development should be made to seek these ends. Fakers and sideshows should have no place in a grange picnic. Exhibits of stock and products of the community should be encouraged.

"Our school system needs to be brought up to the times. The old idea of school curriculum was to lead up to college, but when it is understood that but two percent of our country children go to college it is time that the curriculum was adapted to the needs of the 98 rather than the two. As vocational education rather than collegiate education is being recognized as the proper system of schools, it becomes a question of vital importance in what way vocational education shall be introduced. Some want expensive equipment at some central place that will be given over to this kind of training. It naturally follows that if such application of the princinple is adopted the location of these schools will be in the centers of population, and that means that country children will be educated in town, with the result that many never come back to the country."

The Rev. G. W. Hatch, of Mahaffy, state chaplain, urged the establishment of a high school in every township in Pennsylvania and an improvement of the public school curriculum admitting the study of practical agricultural subjects.

Tuesday evening was an open meeting, at which the city officially welcomed the state grange, for which hospitality the grange responded. In a response the Hon. Wm. T. Creasy said:

The people of the city are blaming the farmer because these people did not understand the real facts as to the cost of living. He estimated from agricultural reports that over 2,000,000 men have been taken from the farms since the war. In the state of New York in one year 43,000 boys, 42,000 farm girls and 16,000 laborers had left the farms and gone to the cities where they were paid more money for their services. As a result of the urging by the government during the past months, the farmers are planting more than they can harvest with the help they were able to obtain and the excess is at present going to waste. The farmer is at present doing the best that he knows how and is the most criticized person.

James G. McSparren in responding recited in his vigorous style some of the handicaps under which the farmer is laboring, among which is the failure of the Department of Agriculture to understand the farmer's needs, and its apparently unsympathetic attitude toward him. He stated that the only way to keep the boy on the farm is to remedy things which take him away from the farm. That is, make the farm pay the boys as much as the factories are willing to pay.

A resolution was introduced by Miss Florence Rhone on Wednesday urging the passage by Congress of the Susan B. Anthony suffrage amendment. This was passed without a dissenting vote.

An impressive memorial service was held on Wednesday morning. State Chaplain Rev. G. W. Hatch was in charge and announced the names of the two members of the organization who passed away during the year. He first named Leonard Rhone, of Center Hall, one of the most prominent men of the order, and then Joel A. Herr, of Mill Hall. A number of prominent members spoke at length during the service, referring to the lives of these men and the great good they had accomplished in the grange.

Strong resolutions were passed endorsing national prohibition; for the exemption of skilled farm labor from military duty, and calling attention to the inconsistency of permitting the manufacture of wine and beer while the necessity for economy in the use of sugar and food stuffs is so great.

Th report of the executive committee showed that patrons are availing themselves of the opportunity created by the state grange's alliance with the Farmers' and Traders' Life Insurance Co., of New York. The company now has over $3,000,000 insurance in force, and over $200,000 of the surplus has been loaned to farmers.

The Legislative Committee reported that the bureau established at Harrisburg last year for the purpose of keeping in touch with the legislature and keeping members informed as to the doings of that body had been highly successful and recommended the continuation of the same.

Mr. A. P. Bower, a vice president of the Pennsylvania Federation of Labor, addressed the meeting and in a very interesting speech called attention to the mutual interests of farmer and labor organizations. At his suggestion, the grange appointed a committee to meet a labor committee in Harrisburg in January to mutually consider subjects of interest to both.

Treasurer F. P. Willets reported the treasury in good condition, there being a balance of $30,060.60 on hand. Three thousand dollars had been invested in Liberty Bonds. The balance of the local option fund, $84, was donated to the Soldiers' Testament fund. To this was added $61 made up by contributions from individuals.

The secretary of the Grange Casualty Co. was admitted and spoke of the necessity for farmers to make themselves safe in taking out insurance for their help. While the law exempts them from the general compensation obligation, yet if an employe of home or farm is injured while at work not absolutely connected with actual farm or kitchen duties, the employer is liable. He is also liable for damages under the old law, and juries at the present time are inclined to "soak" the farmer who carries no insurance. Worthy Master McSparren urged members to protect themselves by taking insurance in the Grange Casualty Co.

An interesting event of the meetings was an address by Gifford Pinchot. This address will be published in a later issue.

A message was sent to President Wilson, in which the grange, speaking for its 68,000 members, promised "the best there is in us of our man-power to make the earth produce its products in this, our country's greatest crisis." The message continued:

"We further represent that the brewery interests of this state are controlled by German adherents and sympathizers and the output of their breweries is one of the chief causes of food scarcity, inefficiency of labor, impaired factory products and crippling of the mining industry, which, in turn, is holding up the other industries and causing women and children to suffer for want of fuel to warm their homes. Our schools are being closed and our children are being stunted physically and intellectually in order that the corpulent German sympathizer, through his brewery interest, may carry on his business of destruction of manhood and patriotism. Appreciating the fact that your knowledge of these questions is as broad as ours, we make bold to say that the time has arrived when further manufacture of brewed products should cease."

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NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

SYNOPSIS OF PREVIOUS CHAPTERS

Henry de Spain is the Manager of the stage line running between the rich mines of the Spanish Sinks and the town of Sleepy Cat. He immediately gets into trouble with members of the Morgan Gang, with headquarters at Morgan's Gap. DeSpain in doing his duty as Manager is brought into two fights with Morgan's men and is soon a hunted man. In the meantime he falls in love with Nan Morgan, niece of the leader of the gang. After a desperate fight, in which he wounds Gale Morgan and is himself wounded, he is carried by his horse to the base of Music Mountain, at Morgan's Gap. Here he is discovered by Nan, and nursed back to life. She regards him as an enemy of the family, but takes pity on him in his desperate condition. He tells her the story of his life and the conditions that brought him into conflict with her family. Still doubting him, Nan brings food to nourish him until one day he saves her from an encounter with her cousin, Gale Morgan. Being discovered, de Spain has to escape and Nan shows him a secret trail out of the mountains and furnishes a horse for him to ride back to his friends.

CHAPTER XVI (Concluded)

Nan indicated the horse she had brought. De Spain protested:

"I could ride a razorback—why take all that trouble for me?"

"If you don't start while you have a chance you will undo everything I have tried to do to avoid a fight."

The wind stirring softly, set the aspen leaves quivering. The stars, chilled in the thin, clear night air, hung diamond-like in the heavens and the eastern sky across the distant desert paled for the rising moon. The two standing at the horse's head listened together in the darkness. De Spain, leaning forward, said something in a low, laughing voice. Nan made no answer. Then, bending, he took her hand and, before she could release it, caught it up to his lips.

For a long time after he had gone she stood listening for a shot—wondering, breathless at moments, whether de Spain could get past the waiting traps. The moon came up, and still lingering, torn with suspense, she watched a drift of fleecy clouds darken it. She scanned anxiously the wrinkled face of the desert which, with a woman's craft, hides at night the accidents of age. It seemed to Nan as if she could overlook every foot of the motionless sea for miles before her; but she well knew how much it could conceal of ambush and death even when it professed so fairly to reveal all. Strain her ears as she would, the desert gave back no ripple of sound. No shot echoed from its sinister recess—not even the clatter of retreating hoofs.

De Spain, true to all she had ever heard of his Indian-like stealth, had left her side unabashed and unafraid—living, laughing, paying bold court to her even when she stubbornly refused to be courted—and had made himself in the twinkling of an eye a part of the silence beyond—the silence of the night, the wind, the stars, the waste of sand, and of all the mystery that brooded upon it. She would have welcomed in her keen suspense, a sound of some kind, some reminder that he yet lived and could yet laugh; none came.

When it seemed as if an hour must have passed Nan felt her way noiselessly home. She regained her room as she had left it, through her east window, and throwing herself across her bed, fell into a heavy sleep.

Day was breaking when the night boss, standing in the doorway at the Calabasas barns, saw a horseman riding at a leisurely pace up the Thief River road. The barnman scrutinized the approaching stranger closely. There was something strange and something familiar in the outlines of the figure. But when the night-rider had dismounted in front of the barn door, turned his horse loose, and, limping stiffly, walked forward on foot, the man rubbed his eyes hard before he could believe them. Then he uttered an incredulous greeting and led Henry de Spain into the barn office.

"There's friends of yours in your room upstairs right now," he declared, bulging with shock. De Spain, sitting down, forbade the barnman to disturb them, only asking who they were.

When he had asked half a dozen more leisurely questions and avoided answering twice as many, the barnman at de Spain's request helped him up-stairs. Beside himself with excitement, the night boss turned, grinning, as he laid one hand on the door-knob and the other on de Spain's shoulder.

"You couldn't have come," he whispered loudly, "at a better time."

The entryway was dark, and from the silence within the room one might have thought its occupants, if there were such, wrapped in slumber. But at intervals a faint clicking sound could be heard. The night man threw open the door. By the light of the stage dash-lamps, one set on the dresser and the other on a window ledge, four men sat about a rickety table in a life-and-death struggle at cards. No voice broke the tense silence, not even when the door was thrown broadly open.

No one—neither Lefever, Scott, Frank Elpaso, nor McAlpin—looked up when de Spain walked into the room, and, with the night man tiptoeing behind, advanced composedly toward the group. Even then his presence would have passed unnoticed, but that Bob Scott's ear mechanically recorded the limping step and transmitted to his trained intelligence merely notice of something unusual.

Scott, picking up his cards one at a time as Lefever dealt, raised his eyes. Startling as the sight of the man given up for dead must have been, no muscle of Bob Scott's body moved. His expression of surprise slowly dissolved into a grin that mutely invited the others, as he had found out for himself, to find out for themselves.

Lefever finished his deal, threw down the pack and picked up his hand. His suspicious eyes never rose above the level of the faces at the table; but when he had thumbed his cards and looked from one to the other of the remaining players to read the weather-signals, he perceived on Scott's face an unwonted expression, and looked to where the scout's gaze was turned for an explanation of it. Lefever's own eyes at the sight of the thinned, familiar face behind Elpaso's chair, starting, opened like full moons. The big fellow spread one hand out, his cards hidden within it, and with the other hand prudently drew down his pile of chips. "Gentlemen," he said lightly, "this game is interned." He rose and put a silent hand across the table over Elpaso's shoulder. "Henry," he exclaimed impassively, "one question if you please—and only one: How in thunder did you do it?"

CHAPTER XVII

Strategy

One week went to repairs. To a man of action such a week is longer than ten years of service. But chained to a bed in the Sleepy Cat hospital, de Spain had no escape from one week of thinking, and for that week he thought about Nan Morgan.

He rebelled at the situation that had placed him at enmity with her kinsfolk, yet he realized there was no help for this. The Morgans were a law unto themselves. Hardened men with a hardened code, they lived in their fastness like Ishmaelites. Counselled by their leader, old Duke Morgan, brains of the clan and influential enough to keep outside the penalties of the law themselves, their understanding with the outlaws of the Sinks was apparently complete, and the hospitality of one or another of their following within the Gap afforded a refuge for practically any mountain criminal.

But none of these reflections lightened de Spain's burden of discontent. One thought alone possessed him—Nan; her comely body, which he worshipped to the tips of her graceful fingers; her alert mind, which he saw reflected in the simplest thought she expressed; her mobile lips, which he followed to the least sound they gave forth! The longer he pictured her, figured as she had appeared to him like a phantom on Music Mountain, the more he longed to be back at the foot of it, wounded again and famished. And the impulse that moved him the first moment he could get out of bed and into a saddle was to spur his way hard and fast to her; to make her, against a score of burley cousins, his own; and never to release her from his sudden arms again.

With de Spain, to think was to do; at least to do something, but not without further careful thinking, and not without anticipating every chance of failure. And his manner was to cast up all difficulties and obstacles in a situation, brush them aside, and have his will if the heavens fell. Such a temperament he had inherited from his father's firey heart and his mother's suffering, close-set lips as he had remembered them in the little picture of her; and he now set himself, while doing his routine work every day, to do one particular thing—to see, talk, plead with, struggle with the woman, or girl, rather—child even, to his thoughts, so fragile she was—this girl who had given him back his life against her own marauding relatives.

For many days Nan seemed a match for all the wiles de Spain could use to catch sight of her. He spent his days riding up and down the line on horseback; driving behind his team; on the stages; in and out of the streets of Sleepy Cat—nominally looking for stock, for equipment, for supplies, or frankly for nothing—but **always looking for Nan.**

His **friends saw that** something **was absorbing him in an** unusual, even an extraordinary way, yet none could arrive at a certain conclusion as to what it was. When Scott in secret conference was appealed to by Jeffries, he smiled foolishly, at a loss, and shook his head.

Lefever argued with less reticence. "It stands to reason, Jeffries. A man that went thru that ten minutes at Calabasas would naturally think a good deal about what he is getting out of his job, and what his future chances are for being promoted any minute, day or night, by a forty-five."

"Perhaps his salary had better be raised," conceded Jeffries reflectively.

"I figure," pursued Lefever, "that he has already saved the company fifty thousands in depredations during the next year or two. The Calabasas gang is busted for five years—they would eat out of his hand—isn't that so, Bob?"

"The Calabasas gang, yes; not the Morgans."

John's eyes opened on Scott with that solemnity he could assume to bolster a badly unconvincing statement. "Not now, Bob. Not now, I admit; but they will."

Scott only smiled. "What do you make out of the way he acts?" persisted Lefever, resenting his companion's incredulity.

"I can't make anything of it," premised Bob, "except that he has something on his mind. If you'll tell me what happened from the time he jumped thru the window at Calabasas till he walked into his room that night at the barn, I'll tell you what he's thinking about."

"What do you mean, what happened?"

"Henry left some things out of his story."

"How do you know?"

"I heard him tell it."

Jeffries, acting without delay on the suspicion that de Spain was getting ready to resign, raised his salary. To his surprise, de Spain told him that the company was already paying him more than he was worth and declined the raise; yet he took nobody whomsoever into his confidence.

However, the scent of something concealed in de Spain's story had long before touched Lefever's own nostrils, and he was stimulated by mere pride to run the secret down. Accordingly, he set himself to find, in a decent way, something in the nature of an explanation.

De Spain, in the interval, made no progress in his endeavor to see Nan. The one man in the country who could have surmised the situation between the two—the barn boss, McAlpin—if he entertained suspicions, was far too pawky to share them with anyone.

When two weeks had passed without de Spain's having seen Nan or having heard of her being seen, the conclusion urged itself on him that she was either ill or in trouble—perhaps in trouble for helping him; a moment later he was laying plans to get into the gap to find out.

Nothing in the way of a venture could be more foolhardy—this he admitted to himself—nothing, he consoled himself by reflecting, but something stronger than danger could justify it. Of all the motley Morgan following within the mountain fastness he could count on but one man to help him in the slightest degree—this was the derelict, Bull Page. **There was no choice but to use him,** and he was easily enlisted, for the Calabasas affair had made a heroic figure of de Spain in the bar-rooms. De Spain, accordingly, lay in wait for the old man and intercepted him one day on the road to Sleepy Cat, walking the twenty miles patiently for his whiskey.

"You must be the only man in the Gap, Bull, that can't borrow or steal a horse to ride," remarked de Spain, stopping him near the river bridge.

Page pushed back the broken brim of his hat and looked up. "You wouldn't believe it," he said, imparting a cheerful confidence, "but ten years ago I had horses to lend to every man 'tween here and Thief River." He nodded toward Sleepy Cat with a wrecked smile and by a dramatic chance the broken hat brim fell with the words: "They've got 'em all."

"Your fault, Bull."

"Say!" Up went the broken brim, and the whiskied face lighted with a shaking smile, "you turned some trick on that Calabasas crew—some fight," Bull chuckled.

"Bull, is old Duke Morgan a Republican?"

Bull looked surprised at the turn of de Spain's question, but answered in good faith: "Duke votes 'most any ticket that's agin the railroad."

"How about picking a couple of good barnmen over in the Gap, Bull?"

"What kind of a job y' got?"

"See McAlpin the next time you're over at Calabasas. How about the girl that lives with Duke?"

Bull's face lighted. "Nan! Say! she's a little hummer!"

"I hear she's gone down to Thief River teaching school."

"Came by Duke's less'n three hours ago. Seen her in the kitchen makin' bread."

"They're looking for a school-teacher down there, anyway. Much sickness in the Gap lately, Bull?"

"On'y sickness I knowed lately is what you're responsible for y'self," retorted Bill with a grin. "Pity y' left over any chips at all from that Calabasas job, eh?"

"See McAlpin, Bull, next time you're over Calabasas way. Here"—de Spain drew some currency from his pocket and handed a bill to Page. "Go get your hair cut. Don't talk too much—wear your whiskers long and your tongue short."

"Right-o!"

"You understand."

"Take it from old Bull Page, he's a world's wonder sucker, but he knows his friends."

"But remember this—you don't know me. If anybody knows you are a friend of mine, you are no good to me. See?"

Bull was beyond expressing his comprehension in words alone. He winked, nodded, and screwed his face into a thousand wrinkles. De Spain, wheeling, rode away, the old man blinking first after him, and then at the money in his hand. He didn't profess to understand anything in the high country, but he could still distinguish the principal figures at the end of a bank-note. When he tramped to Calabasas the next day to interview McAlpin he received more advice, with a strong burr, about keeping his own counsel, and a little expense money to run him until an opening presented itself on the pay-roll.

But long before Bull Page reached Calabasas that day de Spain had acted. When he left Bull at the bridge, he started for Calabasas, took supper there, ordered a saddle-horse for one o'clock in the morning, went to his room, slept soundly and, shortly after he was called, started for Music Mountain. He walked his horse into the Gap and rode straight to Duke Morgan's fortress. Leaving the horse under a heavy mountain-pine close to the road, de Spain walked carefully but directly around the house to the east side. The sky was cloudy and the darkness most complete. He made his way as close as he could to Nan's window, and raised the soft, crooning note of the desert owl.

After a while he was able to distinguish the outline of her casement, and, with much patience and some little skill remaining from his boyhood days he kept up the faint call. Down at the big barn the the chained watch-dog tore himself with a fury of barking at the intruder, but mountain lions were common in the Gap, and the noisy sentinel gained no credit for his alarm. Indeed, when the dog slackened his fierceness, de Spain threw a stone over his way to encourage a fresh outburst. But neither the guardian nor the intruder was able to arouse any one within the house.

Undeterred by his failure, de Spain held his ground as long as he dared. When daybreak threatened, he withdrew. The following night he was in the Gap earlier, and with renewed determination. He tossed a pebble into Nan's open window and renewed his soft call. Soon, a light flickered for an instant within the room and died out. In the darkness following this, de Spain thought he discerned a figure outlined at the casement. Some minutes later a door opened and closed. He repeated the cry of the owl, and could hear a footstep; the next moment he whispered her name as she stood before him.

"What is it you want?" she asked, so calmly that it upset him. "Why do you come here?"

Where he stood he was afraid of the sound of her voice, and afraid of his own. "To see you," he said, collecting himself. "Come over to the pine-tree."

Under its heavy branches where the darkness was most intense, he told her why he had come—because he could not see her anywhere outside.

"There is nothing to see me about," she responded, still calm. "I helped you because you were wounded. I was glad to see you get away without fighting—I hate bloodshed."

"But put yourself in my place a little, won't you? After what you did for me, isn't it natural I should want to be sure that you are well and not in any trouble on my account?"

"It may be natural, but it isn't necessary. I am in no trouble. No one here knows I even know you."

"Excuse me for coming, then. I couldn't rest, Nan, without knowing something. I was here last night."

"I know you were."

He started. "You made no sign."

"Why should I? I supposed it was you. When you came again tonight I knew I should have to speak to you—at least, to ask you not to come again."

"But you will be in and out of town sometimes, won't you, Nan?"

"If I am, it won't be to talk with you."

The words were spoken deliberately. De Spain was silent for a moment. "Not even to speak to me?" he asked.

"You must know the position I am in," she answered. "And what a position you place me in if I am seen to speak to you. This is my home. You are the enemy of my people."

"Not because I want to be."

"And you can't expect them not to resent any acquaintance on my part with you."

He paused before continuing. "Do you count Gale Morgan as one of your people?" he asked evenly.

"I suppose I must."

"Don't you think you ought to count all of your well-wishers, those who would defend you with their lives, among your people?" She made no answer. "Aren't they the kind of people," he persisted, "you need when you are in trouble?"

"You needn't remind me I should be grateful to you——"

"Nan!" he exclaimed.

"For I am," she continued, unmoved. "But——"

"Its a shame to accuse me in that way."

"You were thinking when you spoke of what happened with Gale on Music Mountain."

"I wish to God you and I were on Music Mountain again! I never lived or did anything worth living for, till you came to me that day on Music Mountain. Its true I was thinking of what happened when I spoke—but not to remind you you owed anything to me. You don't; get that out of your head."

"I do, tho."

"I spoke in the way I did because I wanted to remind you of what might happen some day when I'm not near."

"I shan't be caught off my guard again. I know how to defend myself from a drunken man."

He could not restrain all the bitterness he felt.

"That man," he said deliberately, "is more dangerous sober than drunk."

"When I can't defend myself, my uncle will defend me."

"Ask him to let me help."

"He doesn't need any help. And he would never ask you, if he did. I can't live at home and know you; that is why I ask you not to come again."

He was silent. "Don't you think, all things considered," she hesitated, as if not knowing how easiest to put it, "you ought to be willing to shake hands and say good-bye?"

"Why, if you wish it," he answered, taken aback. And he added more quietly, "yes, if you say so."

"I mean for good."

"I—" he returned, pausing, 'don't."

"You are not willing to be fair."

"I want to be fair—I don't want to promise more than human nature will stand for—and then break my word."

"I am not asking a whole lot."

"Not a whole lot to you, I know. But do you really mean that you don't want me ever to speak to you again?"

"If you must put it that way—yes."

"Well," he took a long breath, "there is one way to make sure of that. I'll tell you honestly I don't want to stand in the way of such a wish if its really yours. As you have said, it isn't fair, perhaps, for me to go against it. Got your pistol with you, Nan?"

"No."

"That is the way you take care of yourself, is it?"

"I'm not afraid of you."

"You ought to be ashamed of yourself not to be. And you don't even know whom you'll meet before you can lock the front door again. You promised me never to go out without it. Promise me that once more, will you?" She did as he asked her. "Now give me your hand, please," he went on. "Take hold of this."

"What is it?"

"The butt of my revolver. Don't be afraid." She heard the slight click of the hammer with a thrill of strange apprehension. "What are you doing?" she demanded hurriedly.

"Put your finger on the trigger—so. It is cocked. Now pull."

She caught her breath. "What do you mean?"

He was holding the gun in his two hands, his fingers overlapping hers, the muzzle at the breast of his jacket. "Pull," he repeated, "that's all you have to do; I'm steadying it."

She snatched back her hand. "What do you mean?" she cried. "For me to kill you? Shame!"

"You are too excited—all I asked you was to take the trouble to crook your finger—and I'll never speak to you again—you'll have your wish forever."

"Shame!"

"Why shame?" he retorted. "I mean what I say. If you meant what you said, why don't you put it out of my power ever to speak to you? Do you want me to pull the trigger?"

"I told you once I'm not an assassin—how dare you ask me to do such a thing?" she cried furiously.

"Call your uncle," he suggested cooly. "You may hold this meantime so you'll know he's in no danger. Take my gun and call your uncle—"

"Shame on you!"

"Call Gale—call any man in the Gap—they'll jump at the chance."

(To Be Continued.)

Uncle Amos says: "We used to think $1 potatoes was a dream. After raisin' 'em, we know that they are more like a nightmare. But they are just as fillin' as ever and a lot of poor people are goin' to have just as much trouble raisin' the dollar as I had in raisin' the potatoes".

Markets

PHILADELPHIA PRODUCE

Philadelphia, Dec. 17, 1917.

The condition of the potato market is rather peculiar and hard to understand. With only 36 cars of potatoes in both the Read- and Pennsylvania yards together, hardly enough for one day's supply under normal conditions, the market continues very slow with the trade not appearing to care whether they buy potatoes or not. Pennsylvania potatoes are slightly higher than last week, ranging from $2.30@2.60 per cwt. New York state's are selling at $2.20@2.35 per cwt. There have been no fresh arrivals of Eastern Shore barrel stock for several days. Nearby stock in ⅝ bushel baskets continues to sell at 75@85c.

Sweet potatoes are in light supply and good fancy sweets are active and higher. New Jersey ⅝ baskets are selling at $1.25@1.30 for best stock, while poorer grades range from $1.15@1.20. Quite a few Maryland and Delawares in bushel hampers have been in the market this week, and these have been selling at $1.65@1.85 for best primes, while No. 2's and mediums have sold at $1.15@1.25.

Vegetables

The dried bean market is ruling very firm and active, especially on marrows which are being picked up as fast as they arrive at $16 per cwt. Pea and medium beans are also in light supply but as they come in direct competition with California stock, are selling somewhat lower, selling mostly at $14.75. There is quite a demand for Red Kidneys at $15.50 per cwt. Green Florida beans have been in light supply, but the demand has been rather light with best stock selling up to $5.50@6, with some of the stock arriving showing considerable frost, and values on this stock are very irregular. Winter beets from Pennsylvania, New Jersey and New York states have been in light supply and the market is ruling firm, best stock selling up to $3.50 per barrel, while poorer grades bring on down as low as $2.75. Bunch beets continue firm and active at $2.50@3.50 per 100. Carrots are more active than last week and are now selling at 50@65c per ⅝ basket for best grades. Pennsylvania grown carrots have sold up to 70@75c per basket, but these were extra fancy.

The cabbage market has continued its upward tendency of last week, and best green, medium sized heads are selling at $38@40 per ton, with large and poorer grades at $35@36. Cauliflower is now rather scarce on the market and best stock has sold readily at $2.25 per crate. The demand for celery is showing some improvement, but prices are unchanged from last week, ranging from 35@60c per bushel. Eggplants are much higher than last week. Supplies have been very light and best southern stock sold up to $5 per crate. This is an advance of $1.50 per crate over our last week's quotations. Horse radish continues to meet with a fair demand and rules steady and unchanged at $4.50@8 per barrel. Florida is now supplying the greater part of the lettuce now reaching this market, and is selling mostly at $1.50@2 per hamper. Fancy Pennsylvania hot house mushrooms have been meeting prompt sales at $1.50@2 per 4-lb basket.

While prices on onions are showing very little change from last week, the general tone of the market is firm, and it looks as tho prices might go higher. Most sales of fresh arrivals are selling at $2.75@2.90 per 100-lb sack, with some up to $3. Some onions which show poor condition on account of having been standing too long in the depot are selling as low as $2.25. Parsnips are in lighter supply and the market is firm and higher ranging from 55@70c per ⅝ bushel basket. A few pumpkins are still in the market, but they are mostly poor and moving slowly at $3@10 per hundred. Parsley has followed up its jump of last week of $1.50 per barrel by another advance of $1 and is now selling at $7@8, and moving very freely at the advance. Peppers continue very scarce and bring the extremely high prices that were quoted last week, viz: $7@8 per box. There has been no spinach on the market in several days, the last that was sold here bringing $4.50 per barrel. Some kale sold at $2.50 per barrel. Squash continues very scarce and bringing good prices ranging from $3@3.50 per crate with some extra fancy higher. The cold weather has hampered the hauling in of nearby turnips and on account of the lighter supplies, prices have taken quite a jump, with turnips now selling at35@50c per ⅝ basket; yellow Aberdeens at 40@60c, and Pennsylvania yellow turnips at 90c@$1 per basket. Canadian Rutabagas are also higher when the stock is of medium size and sell up to $1.15 per cwt. The large sized rutabagas are not wanted and are selling as low as 60c per cwt. Watercress has been in light supply and the market is higher ranging from $1.75@2.50 per 100 bunches.

Fruits

The receipts of apples are extremely light considering it is the week preceding Christmas. The daily offerings are only averaging from five to ten cars. Under these light supplies, the market as is to be expected is very firm and active on fancy fruit, but the bulk of the offerings are only ordinary to good. Baldwins are selling from $3.50@$5 per barrel, Ben Davis at $2.75@4.25; Black Bens $3@4.50. Some very fine Black Twigs were here this week, and this variety shows an advance of 50c per barrel over last week's quotations, ranging from $3.50@5.25; Ganos sold from $3@4.50; Greenings $3.50@5.50. There were no really good Greenings among the offerings, an strictly fancy would readily bring $6. Kings are selling from $3.50@5.50; Hubbardsons, $3.50@4.75; Starks, $3.50@4.50; Spys, $3.50@5.50; Snows, $4@5.50; Stayman Winesaps, $4@6.25; Twenty Ounce, $4@5; York Imperials, $3@5.25; Winesaps, $3.50@5; Rome Beauty, $5@5.50. There have been heavier offerings of boxed apples for the past several days than barrels. These have been finding a steady market about as follows: Rome Beauty, $1.50@2.25; Spitzenbergs, $1.50@2.25; Jonathans, $1.50@2.10; delicious, $2@2.50; Ortleys, $2.25@2.50; Winesaps, $1.75@2.25. About the only pears now on the market are Keiffers and these are finding a rather slow market at $2.25@3.25 per barrel.

There are only a limited number of cranberries left on the market and these are selling at very high prices ranging from $14@15 per barrel for best berries with some poor and weak berries at $12@13. Crates bring all the way from $3.50@4.75. Oranges and grapefruit are also in extremely light supply for the season of the year, when Floridas should be practically at their height. On account of the extremely light supplies, prices are ruling very high, and some of the very best are selling around $7@7.25 per box, with others ranging on down as low as $2.50, with the average sales being made from $4@5.

Poultry

With the Christmas holidays approaching the demand for all kinds of fancy fruits, dressed poultry is very active, and the market is firm and higher. Strictly fancy turkeys are cleaning up daily at 35@37c, and exceptional lots higher. Ordinary to good turkeys are also cleaning up quickly at 33@34c, while some not so good sold correspondingly lower. Chickens and fowls are also firm and higher, and both are bringing from 24@29c as to quality, fancy heavy fat fowl being wanted. Broiling chickens are practically unchanged from last week, selling at 33@36c. Ducks are in good request at 24@27c, with an occasional lot bringing 28c. Geese are steady at 22@26c. There has also been a good demand for rabbits with cottontails selling at 65@85c per pair, and Jacks at 85c@$1.15.

Live poultry is also meeting with a good demand and prices are firm and somewhat higher than last week. Supplies which are moderate are cleaning up in good shape. Fowls are selling at 22@25c; chickens at 21@25c; old roosters, 18@20c, but they have to be fancy to bring outside prices. Turkeys are about steady at 27@28c. Ducks are showing a wide range. The trade want the White Pekin variety and these command outside prices readily, while others move more slowly at inside quotations which range from 20@26c. Geese are meeting a fair demand at 22@26c.

Eggs

There is an actual dearth of fine, fancy, fresh eggs on the market, and the few small lots that are coming are far from adequate for the demand. In fact, so few are coming that quotations are little more than nominal. Nearby firsts are selling at 58c; Current receipts, 56@57c, and seconds at 45@50c. Western fresh are selling from 56@58c per dozen. Carefully selected, well graded and candled eggs are jobbing out all the way from 60@65c per dozen.

LANCASTER PRODUCE

Lancaster Pa., Dec. 17, 1917.

Market business today was seriously affected by the country roads being clogged with snow. Only a few farmers could break their way thru the drifts and food was scarce. Eggs advanced to 60 and 65c per dozen. Dressed turkeys are bringing 50c per lb. There was no curb market, and even attendance of buyers was light due to the frigid weather.

Butter and Eggs.—Creamery butter, 52@54c per lb; country butter, 55c; fresh eggs 60@65c per dozen; storage eggs, 42@43c; western eggs, 45c.

Poultry.—Dressed old chickens, $1.25@1.75; dressed young chickens, 90c@2; live chickens, $1.50@2 per pair; old; live chickens, 18c per lb.

Vegetables and Fruit.—Lima beans, 18c pt; celery 5@10c bunch; lettuce, 5@12c hd; cauliflower, 15@20c hd; eggplant, 5@10c hd; sweet potatoes, 30c ½ pk; white potatoes, $1@1.35 bu; do, 12@20c ½ pk; new turnips, 15c ½ pk; spinach, 20c ½ pk; parsnips, 5c bx; pears, 20@25c ½ pk; apples, 20@30c ½ pk.

Grain Market.—Filling wheat, $2 per bu; damp wheat, $1.80; new ear corn, $1.15; rye, $1.65; oats, 65c; No. 1 timothy hay, $28 per ton; clover hay, $18; wheat straw, $12.—R.

YORK PRODUCE MARKET

York, Pa., Dec. 15, 1917.

Weather conditions were such the past week that attendance of farmers and consumers was far below the average. Trading was light in all lines. Produce moving very slowly. Butter and eggs are holding their own, but this is due rather to the shortage than to the amount consumed. If trade does not pick up next week for over the holidays, the producers are doomed to a very dull winter. Up to this time the demand as well as the prices are below those of the past two winters.

Eggs.—52@54c per dozen.

Butter.—Country, 48@50c lb; separator, 50@55c. Milk, 10c qt.

Poultry.—Hens, 18c lb; dressed, 50@$1.20 each.

Vegetables.—Potatoes, 12@20c ½ pk; $1@1.25 bu; few moving; lettuce, 5@15c a hd; cabbage, 3@10c a hd; beets, 5c bx; radishes, 6c bch; onions, 12c bx; 25@30c ½ pk; lima beans, 35c qt; soup beans, 34@40c qt; celery, 5@10c a stalk; turnips, 20@25c ½ pk; egg-plants, 5@8c each; corn meal, 10@12c qt.

Fruit.—Apples, 12@35c ½ pk; pears, 3@10c bx; 10@15c ½ pk.

Retail Grain Market.—Wheat, $2.20; corn, $2; oats, 90c; rye, $1.90; bran, $2.20 cwt; middlings, $3 cwt.

Wholesale Grain Market.—Wheat, $2.07; corn, $1.60; oats, 70c; rye, $1.40; bran, $34.50@38.50 per ton; middlings, $50@58 per ton.—W.

NEW YORK PRODUCE

New York City, Dec. 17, 1917.

Butter ruling firm; top grades short. Cheese market steady. Fancy eggs are higher. Dressed turkeys scarce. Live poultry active. Apples plenty. Potatoes arriving are damaged by cold weather.

Butter.—Creamery, extras (92 score), per pound, 50c; higher score, 50½@51c; thirds to firsts, 39@49c; state dairy, 38@49c; ladles, 31@34c.

Cheese.—Flats, specials, 24½c; do., colored, 23½c; prime, 22½@23c.

Eggs.—Fresh gathered extras, 63@64c; extra firsts, 61@62c; nearly white, fine to fancy, 70@72c; ordinary to good, 62@68c; browns, 64@65c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 38@40c; old roosters, 22c; squabs, $2.75@6.75 per dozen. Spring ducks, per lb., 27c; turkeys, fresh killed, 34c.

Vegetables and Greens.—Beets, bbl., $2.25@3. Onions per 100-lb. bag $1@2.25. Potatoes, Jersey, $1.38@2 per 100-lbs; state and western, $2@2.50 per 100-lbs. Carrots, $2@3.50 bbl.

Apples.—McIntosh, $4@8; Jonathan, $4@7; York Imperial, $4@5; Twenty Ounce, $4@5.50; King, $4@5.50; Baldwin, $3.50@5.50.

LANCASTER LIVE STOCK

Lancaster, Pa., Dec. 17, 1917.

Receipts of cattle today were 3,240 head as compared with 3,301 head last Monday. The market was active and prices held about steady with last week. The yards were nearly cleared at the close of trading. Quotations ranged about as follows:

Good to choice steers, $10.50@12.25; common to medium, $9.05@11; extra choice feeders, $10@11.50; medium to good feeders, $8.70@9.70; common to medium, $8@9; medium to good stockers, $7.40@8.40; good to choice fat heifers, $9.75@10.50; common to medium heifers, $6.15@7.15; good to choice young cows, $7@8; medium to good cows, $6.75@8; bologna and fair fresh cows, $5.15@6.40; medium to good bologna bulls, $7.15@8.15; fat bulls, $8.75@10.40; good to choice stock bulls, $8.15@9; common to medium stock bulls, $7@7.50; medium to good stock heifers, $6.40@7; common to medium stock heifers, $9@10.90; best grade oxen, $6.50@8.25; common grade, $6@7.40.

Hogs.—Receipts of hogs today totalled 560 head. The market is active and prices are steady with last week. Best grades, $17@18.25; roughs, $15.50@16.50.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., Dec. 15, 1917.

Hay.—Very little hay coming thru except on the New York Central Lines. Even this is coming in sparingly now and readily disposed of at top prices. The cold weather has retarded shipments as also have various embargoes which are gradually being lifted.

No. 1 timothy, $29@29.50; No. 2 do, $27@27.50; No. 3 do, $24.50@25; No. 1 light mixed, $28@29; No. 1 clover mixed, $2@30; No. 2 clover mixed, $26@28; No. 1 clover $29@30; No. 2 clover $26@28.

Straw.—There is a famine on straw to this market, arrivals are readily grasped at top figures; market stronger.

No. 1 oat $13.25@13.50; No. 2 oat $13@13.25; No. 1 wheat $12.75@13; No. 2 wheat $12.25@12.75; No. 1 rye $13.25@13.50; No. 2 rye $12@12.50.

Ear Corn.—Arrivals light, demand good; market steady.

New No. 2 yellow $1.58@1.60; No. 3 yellow $1.53@1.56.

Oats.—Very little oats arriving, demand is becoming very urgent, receipts being disposed of at premium figures; would advise shipments.

New No. 2 white 85½@86c; new standard 85@85½c; No. 3 white 83@84½c.

NEW YORK HAY AND GRAIN

New York City, Dec 17, 1917.

Feed.—The market position was strong on Saturday, altho no further advances were announced either in Western or city grades. From the Northwest reports indicated that the mills are well sold up and are not offering to any extent either for spot or distant shipment. There is a good trade demand and with the traffic situation little new business is being placed outside of their own territory. City grades are in demand with exporters understood to be active. Prices now are at about the high levels of the season. Quoted: Western spring, in 100-pound sacks, $46.50; standard middlings, $46.50; flour in 100-pound sacks to arrive, $53; red dog to arrive in 100-pound sacks, $63. City feed, bulk bran, $45; heavy feed bulk, $49; 100-pound sacks, $48; red dog, $64; flour, $63. Linseed oil meal, $57 per ton.

Hay and Straw.—Market still heavily supplied at Brooklyn Eastern District Terminal and trade quiet. Receipts not heavy at Thirty-third street, but buying conservative.

Wheat—No. 2, red, $2.25.

Corn.—No. 3, yellow, $1.69 per bushel.

Oats.—No. 2, white, 90c; No. 3, 89c.

Rye.—$1.90.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Dec. 17, 1917.

Butter.—Wholesale trade, as usual, on the last day of the week, was quiet. Offerings of high-grade solid-packed creamery, however, were so light that dealers had little difficulty in disposing of all offerings at full figures. The under grades were in fair request at inside prices. Fancy prints were scarce and firm, but much of the supply was of unattractive stock, which was dull and weak.

Western, fresh, solid-packed creamery, extra, 50c; high-scoring goods, 51@52c; extra firsts, 48@49c; firsts, 45@47c; seconds, 41@43c; sweet creamery, extra, 51c; under grades, 48@50c; held creamery, good to choice, 44@46c; do, ordinary, 40@42c; nearby prints, fancy, 54c; average extra, 51@53c; firsts, 47@49c; seconds, 42@43c; special brands jobbing at 55@57c.

Cheese.—The market was quiet and unchanged with ample offerings.

New York, full cream fancy, June, 25c; specials higher; do. do. do, fresh made, best, 22¾@23c; do, do, do, fair to good, 22@22½c.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Dec. 17, 1917.

Baled Hay and Straw.—Receipts, 96 tons of hay and three cars of straw. Receipts of hay were light and the market ruled firm, with demands absorbing the offerings. Straw was in fair request and values were firmly maintained.

Clover-mixed Hay.—Light mixed, $26@27; No. 1 do, $25@26; No. 2 do, light mixed, $22@23; straw, No. 1 straight rye, $17.50; No. 2 do, $16.50@17; No. 1 tangled rye, $16@16.50; No. 2 do, $15@15.50; No. 1 wheat straw, $14.50@15; No. 2 do, $13.50@14; No. 1 oat straw, $14.50@15; No. 2 do, $13.50@14.

Bran—The market ruled firm under small supplies, but trade was quiet.

Soft winter bran, in 100-lb. sacks, per ton, $46.50@47; spring bran, in 100-lb. sacks, per ton, $45.50@46.

Wheat.—No. 2, red, $2.25.

Corn.—Normal.

Oats.—No. 2, 89½@90c; standard white, 89@89½c.

Rye.—Nearby, as to quality, $1.75@1.80.

GRASS SEED MARKET

Toledo, O., Dec. 17, 1917.

Cloverseed.—Prime cash, new, $16.85; old, $16.10; December, $16.35; January, $16.42; February, $16.42; March, $15.90. Alsike.—Prime cash, $14.50; December, $14.50; February, $14.70; March, $14.80. Timothy—Prime cash, old, $3.60; new, $3.70; December, $3.70; March, $3.90.

NEW YORK MILK MARKET

New York City, N. Y., Dec. 17, 1917.

Demand shows a slightly upward tendency with supply and demand about equal. The storm of Thursday tied up Friday's supply so that there was a marked shortage on that day. The indications are that the Federal Milk Commission will have difficulty in arriving at a decision regarding price before January 1, by which time it must report. It has taken a mass of testimony. This must be carefully digested.

League rates for December are $3.10 a hundred for three percent milk; $2.34, or approximately 7.1 cents a quart, for 3.6 percent; and $3.50 for four percent. Receipts of milk and cream in 40-qt. cans for week ending Dec. 15 were as follows:

Railroad	Milk	Cream
Erie	38,793	1,397
Susquehanna	5,463	42
West Shore	9,410	840
Lackawanna	54,341	975
N. Y. Central (long haul) including Rutland	99,182	1,631
Ontario	38,828	1,568
Lehigh Valley	41,471	377
New Haven	3,810	3
Pennsylvania	8,834	170
Other Sources	5,588	148
Totals	305,720	7,151

TOBACCO MARKET

The buying storm has subsided and the market situation is relatively quiet. Apparently those who wanted to sell have about all reported and the holding situation is largely in the hands of those who are relatively independent and ready to pin their faith to the future in prices. The faith of such growers is a very practical one, it being regarded as almost sure that a substantial advance will be forthcoming soon as the present blockade is lifted. It should be said that of the few crops sold during the week some were as high as $30 per cwt. thru, and that as far as known no crop was sold below $30 for wrappers and of course a lower price for the relatively small percentage of fillings. Indicating what may develop in the future it is noted that buyers are free to confess that they have far less tobacco than is wanted; in fact all that has been sold, and that is a large percentage of the total production, does not seem to have had a perceptible influence in filling the demand. It is almost sure that speculators who have bought so extensively at what seemed dangerous figures have in reality made a very wise and profitable purchase. The existing rigorous weather was quite unfavorable to stripping which now has been so repeatedly delayed that little will be accomplished before the New Year. At many points the temperature was lower than in a decade and snow drifts were such as to block travel. It is noted that those who sold to be stripped without sorting will be able to strip more rapidly and thus deliver sooner, but as a rule the grower who classifies his product should get sufficient advance to more than pay for the extra labor.—H. E. Tweed, Dec. 17, 1917.

Adams Co., O., Dec. 12.—The heavy windfall of Dec. 8 is followed by very cold weather. The temperature has been 8 to 20 degrees below zero for the past several mornings; seven inches of snow on the ground. The ground under the snow is very dry and but very little frozen. Considerable corn yet out in shock. Wheat entered winter in poor condition. Not many farmers have yet butchered their yearly supply of meat. Some fat hogs still in farmers' hands. The supply of fuel is scarce. —W. E. Roberts.

Mifflin Co., Pa., December 14. Fair to December 8, when it snowed all day; next two cold with high wind; more snow yesterday and wind. Dressed beef, 17c; hogs, 20c; turkeys, 30c live weight; wheat $2; corn, $1.25; oats, 70c; apples, $1; butter, 50c; eggs, 50c; onions, $2.50 bushel. Not much trade in live stock at this time of year. Butchering is one of the principle things just now. Much corn to husk yet and some not cut. Much fodder out yet. Not much winter wood hauled in yet. Farmers are not ready for winter but it is here anyway.—J. H. Byler.

Venango Co., Pa., (NW) Dec. 12.—The first part of November was cold, the last part fair. Zero weather now with snow. Live stock is in good condition; prices are moderate. Crops have suffered from hard freeging and no snow protection. Butter, 50c; eggs, 50c; dressed pork, 20c; potatoes, $1.50 to $2 bu.; hay $20; straw, $14 ton. Farm work is closed in by the winter. Hauling lime and getting in fuel is about all of the work that is being done. General conditions are not as good as we would like. Which is the better land lord, Kaiser Wilhelm or Dictator Gompers?—W. J. Pringle.

Broome Co., N. Y., (SE) Dec. 13.—Regular blizzard for the greater part of the last two weeks; as low as 10 below some of the time with high winds and a lot of snow. Serious shortage of coal is causing much trouble. Some stores have issued sugar tickets permitting families to purchase one pound of sugar a week. Eggs sell at five cents each from stores. Milk is eight cents per quart. A meeting was held last week to consider a raise in the milk price. The curb market at Binghampton seems to have died a natural death. Farmers are unwilling to subject themselves and their produce to the cold of the curbs, and housewives will not do their marketing in the bitter cold. Many farmers at the curb charged as much as the same goods sold from the grocery stores. Quite a few potatoes were left in the ground because of no help to dig them. Potatoes, $1.40 bu.; cabbage, 2c per lb.; carrots, $1 bu.; squash, $2 per cwt.; butter, 48c lb.—C. H.

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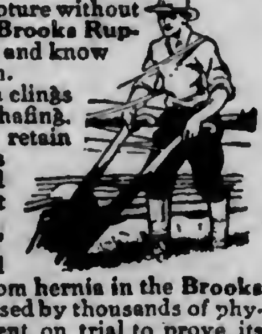

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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Opacity of Cornea.—I have a two-year-old colt that seems to be going blind. Its eyes turn white by spells. I would like to know if anything in line of treatment can be done for this colt. J. W V., Corning, N. Y.—Perhaps your colt has inherited a predisposition to this eye ailment which invariably terminates in loss of vision. It is well to keep in mind that a bright light, foul air, poor ventilation and filthy surroundings irritate a sore eye. Besides, the bowels should be kept open, also, avoid feeding too much stimulating food if the animal is not exercised. Give colt 15 grains potassium iodide and a teaspoonful Fowler's solution of arsenic at a dose in feed or drinking water, twice a day. When the eyes are sore and inclined to cloud over, blow a small quantity of equal parts calomel and boric acid into the eye every day or two.

Indigestion—Worms.—I have a ten-year-old mare that is well fed, but remains thin. I bought her two years ago at which time she was fleshy, full of life and hard to handle. I reduced her food supply and she soon became dull and dumpish and in order to have her move at an ordinary gait she required the whip. This mare has a ravenous appetite, usually cleans up not only what is placed in manger, but she is inclined to eat her filthy bedding. I am anxious to put this mare in condition, as she can be driven by the family. W. H. K., Prospect, N. J.—Mix together one part ground nux vomica, one part powdered sulphate iron, one part air-slacked lime, one part ground fenugreek, four parts ground gentian and give her a tablespoonful at a dose in ground feed, three times a day. A change of feed will doubtless do her good and perhaps you had better examine her grinder teeth for they may require floating.

Indigestion.—We have a cow that had her second calf some time ago, but is not giving nearly as much milk as she did last season. She is thin and unthrifty. Her coat is harsh and she has every symptom of being hide-bound. Our local veterinarian prescribed for her, but I do not believe the medicine made much impression as she is in the same condition as she was before we treated her. A. R., Catawissa, Pa.—First of all, your cow should be fed plenty of nutritious food. She should be kept warm and her stable well supplied with fresh air, but instead of turning her outdoors to become chilled, stable her. Be sure that her barn is kept clean, also give her one dram ground nux vomica, one ounce cooking soda, ½ ounce powdered wood charcoal at a dose in feed, three times a day.

Bursal Swelling.—The Pennsylvania Farmer has been of great assistance to me. In looking thru the veterinary column from time to time, I fail to find a case parallel to the one for which I ask you to prescribe. Please tell me what to do for a pig, two weeks old, which has a soft puffy bunch on hock. I opened this bunch and a yellow fluid came out of the leg, but the bunch remains. The pig is not lame and is the only one of a litter of ten which is imperfect. J. M., Pleasant City, Ohio.—Paint bunch with equal parts tincture iodine and spirits of camphor, twice a week.

Ringbone.—We have a yearling colt that has been lame for the past five weeks. The only bunch or swelling on leg is just above the hoof on lame leg, but pressing this bunch with the end of finger does not make him flinch. What treatment do you advise for the colt? B. G. A., Espyville Station, Pa.—Your colt suffers from ringbone. Clip off hair and apply one part red iodide of mercury and eight parts fresh lard every ten days or two weeks. The colt should have absolute rest, or at least be allowed to move about but little.

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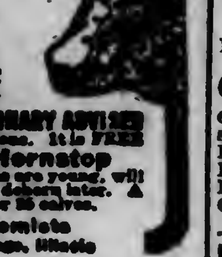

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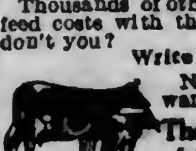

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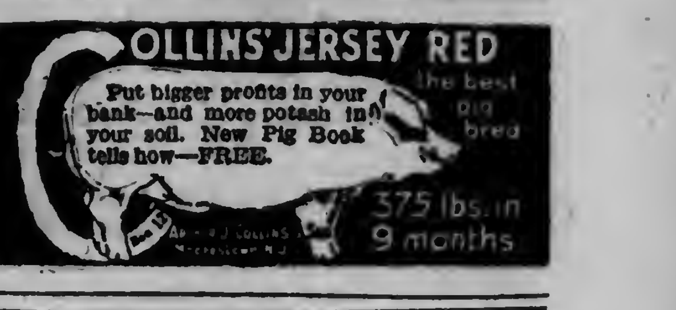

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Large Berkshire Swine Registered High Grade. Prices reasonable. Write HOME FARM, CENTER VALLEY, PA.

Berkshires October Pigs. Large Litters. EDWIN B. MAULE, COATESVILLE, PA.

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Miscellaneous

For Sale Dark Brown Reg. Percheron Stallion, Sound, age 9 yrs., ht. 16 1-2 hands, wt. 1,600 lbs. One Sorrel Reg. Shire Bred Stallion, age 10 yrs., ht. 17 hands, wt. 1,700 lbs. The stallions are guaranteed to be sure foal getters; first premiums awarded wherever exhibited. Gentle to handle. Any one wishing to buy thorobred stallions will find it to their interest to come and see them. Full pedigrees given. Prices right. One pair Kentucky Mules, age 8 yrs., sound. Address F. P. MILLER, Springtown, Pa.

Scotch Collie Dogs for sale. Seventy-five head to make your selection from. More than 20 years a breeder of Collies. Send for illustrated circular and prices. HARVEY'S DOG FARM, CLAY CENTER, NEB.

Cattle For Sale Stockers and feeders, from 500 to 1,000 lbs. Write your wants. ISAAC SHANSTROM, FAIRFIELD, IOWA.

Ferrets For Sale —all sizes; any number. ALSO ANGORA KITTENS. C. JEWELL. SPENCER, OHIO.

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PENNSYLVANIA POTATO GROWERS ORGANIZE

The Potato Growers' Association of Pennsylvania was formed at a meeting held at Philadelphia, Dec. 6. The meeting was called by the State Department of Public Safety, and about 125 farmers from various sections of the state responded to the call. The need of organization was fully demonstrated by the many questions of state-wide interest that came up for discussion. After addresses and discussions of potato subjects of state and national interest by Mr. Lou. D. Sweet, of the Federal Food Administration, Prof. Wm Stuart, of the Federal Department of Agriculture, and others, the meeting perfected a permanent organization. A constitution and by-laws were adopted and officers elected for a term of one years as follows: President, Chester Shultz, Berks Co., Pa.; vice presidents, Ira C. Charrings, Columbia Co., Howard H. Williams, Montgomery Co., and D. G. Hopkins, Lehigh Co.; secretary, Chas. Preston, State College, Pa.; treasurer, G. J. P. Rank, Lancaster Co. Mr. John A. McSparran, Lancaster Co., and B. T. Hartfrant, Lycoming Co., were elected to membership on the Executive Committee. The aims and purposes of the Association, together with further report of the meeting, will be given next week.

GOVERNMENT INSPECTION FOR SHIPPERS

The U. S. Department of Agriculture announces that it inaugurated a food products inspection service in New York and Chicago on November 1. This service, which is open to shippers of fruits and vegetables, will soon be extended to other large cities, including Philadelphia, Pittsburgh and Boston. For some time inspections are likely to be restricted to cars of produce concerning which there is a dispute. Inspectors will examine and certify to the condition of the goods upon request. No charge will be made for the service. Full information is given in Bureau of Markets Service and Regulatory Announcements No. 28, sent free upon request to the Department of Agriculture, Washington, D. C.

HAUL FERTILIZERS PROMPTLY

By ordering fertilizers now and hauling them to the farm as soon as the cars arrive, farmers will help to improve railroad service next year. They will also protect themselves against failure to receive the fertilizers in time for spring use. The National Fertilizer Association is urging that freight cars be loaded to their full capacity with at least 50 tons of fertilizers as against the average trade car-lot shipment of 21 tons. If next season's fertilizer requirements can be shipped well in advance of actual needs and in cars loaded to full capacity, the railroads will be able to render satisfactory service in spite of the other demands made on them.

The rat is said to be the worst animal pest in the world. It destroys more than $200,000,000 worth of property in this country every year, and thus counteracts the productive efforts of an army of 200,000 men.

And Now He Cultivates With Dynamite

The man who was wise enough to plant his orchard with the aid of Hercules Dynamite is also wise enough to keep it in proper shape by cultivation of the soil around the roots of the trees. He enlists the help of Hercules Dynamite in this work too.

In the Fall of the year he blasts holes between the rows of trees, at the ends of the roots, shaking and loosening the soil, and giving the roots new food and softer earth through which to grow.

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Isn't it Strange? — — But Dairy Dan's Wife had the Right Idea!

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TURN FASTER PAPA!
SKIM MILK
Look Papa you are Still Losing that Dime
SKIM MILK
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Dime →
Maria—Sew Up This D— Hole I Lost a Dime
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He hated to admit that this constant loss would have more than paid for a *modern* separator which skims clean at any speed.

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And he sure did give Maria an awful call-down for *her* carelessness.

She got peeved and showed him how he could mend *his* carelessness—by buying a SHARPLES SUCTION-FEED SEPARATOR. Adv't.

PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880
PUBLISHED WEEKLY

Vol. 42—No. 26. PHILADELPHIA, PA., SATURDAY, DECEMBER 29, 1917. 75 Cents per Year

Library Agri College Experiment Station

War-Time Problems on The Farm

How Pete is Preparing to Work Them Out

By PETE, HIMSELF

"I have a notion to sell my farm, Pete, put the money on interest and move to town where I can work in the public works. I believe I will be money ahead by doing so."

This from the owner of one of the prettiest little farms I know of, only a few days ago. He is a man of about sixty years; has spent all his life on a farm and most of it on the farm he had just talked of selling. He had heard and read of the wages being paid in some of the public works. I think this man could make no greater mistake than by leaving the farm. He has only heard one side of the wages story. I believe the following is more nearly the average condition:

A young man and his wife, both raised on the farm, have just recently moved to Wilkinsburg, Pa., to live. He has secured a position in the Westinghouse works at East Pittsburgh, which makes a five-cent ride on a cold, crowded street car from Wilkinsburg. He works ten hours a day and gets about $100 a month. Now for a few of the expenses to see where our older friend would be ahead of the game: Houses are so scarce around Pittsburgh that this young fellow and his wife and baby could only get four upstairs rooms. I do not know what groceries, flour and meat will cost, but judging from our own grocery bills here in the country where we have our own milk, eggs, potatoes and many canned vegetables, we have been averaging over $30 per month. I believe it would be conservative to say that this couple will pay out $40 per month. Street car fare costs at least $3 per month. To take the place of the fresh air, etc., that we get in the country, the city dweller has to take in amusements. These will cost about $3 more.

Counting clothes and other expenses, it is hard to see where this young couple is going to save anything after all. So the chances are that if this man of sixty, unskilled in any line except farming, would hire out in public works, he would have hard scratching to break even, whereas in his present circumstances he has a good home and a pretty farm and is putting by a nice little sum every year in the bank. Going to the city, he would leave behind all his old friendships, and in two or three years, like 90 percent of other farmers who sell out and go to the city, he would learn that he was cutting his life short about ten years.

Good Pastures and Pure Water Make Cheap Beef

The Labor Problem

Until three months ago I had working for me a young fellow who was a good farm hand. He was born on a farm and spent all of his life on a farm. Hearing of the war wages being paid in the city he made himself so disagreeable that he was discharged. Immediately he went to the city, but in less than two weeks I heard that he had quit city work and was back in the country. He found that after he had paid his living expenses he was not as far ahead as he had been here on the farm where we were paying him $35 a month and board, with the privilege of taking a day off occasionally and having the privilege of riding with us when we went out in the auto.

One of the best farmers in our community told me a few days ago that a young fellow who left his employ, where he was getting $35 a month with board and washing, was ready to come back to the farm. He said his expenses were $60 a month before he had a cent left that he could save for himself.

These few examples are given, not only as a warning to the farm boy or the man working on the farm to think twice before he leaves for the city job, but as some encouragement to brother farmers to know that the pendulum is starting to swing back a little. It certainly looked dark for a while, especially about the time the article written by Mr. Creasy on "Farm Labor Supply and War's Demands" appeared in this paper. Since that time, too, encouragement is given by the new turn in the draft requirements which are much more favorable to the farmer. But in spite of these facts, while the war lasts and for some time after, there is going to be a shortage in the farm labor supply and it behooves the farmer more than ever to plan his work and install machinery and labor savers to overcome the deficiency. Following are a few suggestions that have come to me as I have seen them worked out in different sections.

Labor Saving Machinery

Nearly every time a farm tractor demonstration was given in our section last year a rain storm came up a day or two before, which made conditions for demonstrating very trying. But none of these demonstrations were complete failures. Instead, it was demonstrated that the farm tractor is a success for most any size farm and that they have come to stay. If the farmer does not favor the tractor, but has the horse power, this winter is a good time to rig up three- and four-horse pulling apparatus, so that instead of two men working three or four horses in two outfits, one man can handle them.

Certain sections of Canada are great milk-producing centers. When the war first struck Canada's labor supply, the milking problem was one of the worst that confronted them. But the dairymen of this country have solved the problem by the use of the milking machine. Since installing these machines, many of these dairymen have actually increased the size of their dairies. Another way in which the dairy farmers can save in labor is in the co-operative hauling of their milk or cream to the shipping station or creamery. In our own section the farmers almost invariably hire a man to do this work for we believe it is still more economical than co-operative hauling and certainly cheaper than where each man hauls his own.

Another practice that will probably be followed on many dairy farms in the future, and which the war may hasten, is the housing of cows in the open shed, or some modification of it. There the cows can be bedded down each day, and the only time the manure is handled is when it is loaded on the spreader or wagon and hauled to the field. The open shed is usually good for steers, for in practically all experiments run by our Experiment Stations, steers made cheaper gains in the open shed than under any other system of housing. Hog feeders, too, have a chance to profit by results secured by the experiment stations. They have found in practically every case that with the same kind of feed a hog will make more economical gains if allowed to eat at will from a self feeder than where he is fed two or three times a day by hand.

Labor may be made to count for much more if work is carefully arranged. To illustrate from our own case: This Fall, in our section, was the most unfavorable known for years, yet our work is much farther along than it was at the same time last year. We had 19 acres in corn. Not having a corn binder I was able, thru the kindness of a neighbor, to hire a binder and cut it all in that way. For the first time we refilled our silo, and in this way utilized the corn from 13 acres. With a "horse" it was not much of a job to shock the other six acres.

Not knowing what labor conditions will be next spring, I decided to do a lot of Fall plowing, instead of allowing the team to stand in the barn while the hired man and I husked corn. So I plowed and every time I went out in the morning and afternoon I took the wagon along and brought to the barn a load of unhusked corn. Then while I plowed, the hired man husked corn. Once or twice there came a few days of wet weather, during which time the two of us could work at the corn. In this way we had the corn husked in good season and in a comfortable place, and at the same time will have 15 acres of Fall plowing done. This year, too, we saved quite a lot in labor by planting the corn in check rows and working it both ways. The result was a clean cornfield that required no hand hoeing. We saved some cultivating, too, by going over the field both ways with a smoothing harrow, just as it came thru the ground. In these days of scarce and costly labor, only those farmers who carefully plan and conserve labor can succeed.

The hay loader, the side delivery rake and the manure spreader are going to be popular on the farms where not already used. I never fully appreciated the efficiency of our manure spreader until a few days ago. We were hauling out heavy cow manure that had been packed solidly. On the same day that we were using the spreader our neighbor was hauling out lighter manure containing more straw on a sled with probably half the capacity of the spreader. Once or twice during the day we both started for our respective fields at the same time. Almost invariably I was back at the barn and had another load half on before he had his unloaded.

New Farm Home of Geo. W. Kenney, Monmouth Co., N. J.

Labor Remedies

Quite a number of remedies have been suggested to increase the labor supply in both city and country while the war lasts. One of these is to cut out the making of luxuries and turn this labor into channels of work where necessities are being produced. Another is to prohibit an excessive number of servants or else put a high tax on the servants employed in the homes of the wealthy. Another would be to curtail all new public improvements until the war is over. One of these is of particular interest to us farmers in this state, viz., the proposed issue of fifty million dollars for the building of new roads thruout Pennsylvania. Personally I think this would be a great mistake at this time, for it would not only mean a greater taxation when our outgo will be heavier for a few years anyhow, but it would mean a considerable drain on the labor supply of the state.

They have found in England that many of the positions formerly thought to remain men's work are being very acceptably filled by women. Altho it has been advised by those in authority to continue our institutions of higher learning, if the labor conditions get more serious, I can see no good reason why these institions should not be closed until after the war is over, and these young men turned into labor channels. Practically all of these young men could be used as transient labor, helping out in industrial centers in winter and in agriculture in summer.

Our Fertilizers

But labor is not the only problem imposed by the war. The problem of fertilizers is going to teach us some lessons that are going to mean a saving to us after the war. One thing already learned, since the potash supply was cut off, is that in many cases more potash was used than was necessary. Altho lime is not a substitute for potash, it has been found, especially on sour clay soils that lime helps to set free potash and make it available to the plants.

A few days ago, the man from whom I buy acid phosphate came by where I was working. He asked me if I wanted to order my phosphate for next Spring's crops. The price he quoted was a little over $22 a ton, or nearly twice the price it sold for four years ago. The chances are that it is going to go higher as the war progresses, or else it will be an impossibility to secure the acid goods. This will bring up more strongly than ever the use of the raw ground phosphate rock. Judging from the experience gained by its use at the Illinois Experiment Station, if I could buy it here I would give it a thoro trial, mixing it with manure daily. This is necessary for its successful use, however, for if applied without mixing it with manure or plowing it under with a good cover crop, it would probably be valueless. If anyone is in doubt as to its use with manure, he would do well to read the article on "Bringing Back the De Kalb Soils" in the November 24 issue of Pennsylvania Farmer.

Some relief is indicated in the nitrogen situation by the promise of the government to make use of a $10,000,000 fund to purchase it in quantity from Chile and sell it out to the American farmers. Another source of relief is promised soon in the manufacture of ammonia sulphate in by-product coke ovens in the soft coal regions. The live stock farmer has less need to worry if he takes care of the manure produced on the farm. Unless he has a good manure pit he should by all means haul it out as soon after it is made as possible. The liquid part of the manure should be saved so far as possible, for it contains something like four-fifths of the total potash in the manure.

Our Cattle Feeds

Feed is another problem of the war that is causing concern to the farmer. The dairy farmer, especially, is confronted by the scarcity of feed on the market. Formerly one was able to get to his feed store and buy almost an unlimited variety of feeds. Now he is just as likely to find the feed store cleaned out of everything. Use of a paper and pencil are more necessary than ever to figure out the cheapest possible balanced ration. In our section just now, for instance, gluten feed, oil meal and cottonseed meal are all quoted at about the some price. Yet both oil meal and cottonseed meal are much higher in protein than the gluten feed.

Two new feeds now being advertised extensively for the first time are peanut meal and velvet meal. Peanut meal contains about 30 percent protein and at present sells for about $2 per ton less than cottonseed meal. Velvet bean meal contains about 20 percent protein and I am told sells at a much lower figure than gluten feed, which contains about 28 percent protein. So if we can get the feeds I am going to try the following ration for our cows: 800 pounds corn and cob meal, 400 pounds cottonseed meal, 300 pounds oil meal, 100 pounds peanut meal and 100 pounds velvet bean meal.

If the steer feeder has plenty of roughage, especially silage, his troubles will not be nearly so great as those of the dairyman. Last winter many feeders relied solely on a little cottonseed meal added to the silage for their ration. Of course the steers were not so fat as when corn was also fed, but they were in good marketable condition and the gains were cheaper than where corn was fed.

With the present high price of corn, and even tho pork is high, it behooves the hog feeder to get the most out of his corn. Again referring to experiment station results, one of our experiment stations has found that with tankage at $80 per ton and oilmeal at $60 per ton, more economical gains can be made by using one or the other of these as a part of the hog's diet than by the feeding of corn alone.

Marketing Our Crops

Still another problem caused by the war is in the marketing of our farm products. It is probable that if the war lasts long, our marketing system will be revolutionized. Just now, as in the past, the farmer, whether he is a milk, grain, hay or fruit farmer, has been too much at the mercy of a few large buyers and commission men. Not long ago we read that Bordens had closed down over 30 of their milk receiving stations in New York. This means that in these thirty sections the farmers must either go to the extra labor of making butter on their farms or sell their cows. The experience of a section around Richmond, Vermont, is given to show how the farmer can, by co-operating, overcome such a condition as this:

A few years ago the farmers of that section were confronted by such a problem as these New York farmers now face. A meeting was called, stock was subscribed to the amount of $10,000, and a plant was built to make either butter or to handle whole milk. So successful have they been that last month they were able to pay 54 cents a pound for butterfat and $1.25 per hundred for skim milk.

At Grove City, Pa., the Dairy Division of the U. S. Department of Agriculture is demonstrating an ideal method of caring for the dairy products. The farmer can send either whole milk or cream, provided it is sweet. The creamery is equipped for making butter from the cream; also for condensing the skim milk, making it into cottage cheese or casein, depending on which is bringing the highest price on the market. Now they are building an addition to the present building where a variety of cheese can be manufactured, depending again on which is the best market price.

By having this equipment, much of which is interchangeable, this plant is able at all times to take care of all the product received and to pay the best of prices. During the month of October 54 cents was paid for butterfat and 80 cents per hundred for skim milk. A creamery drawing from territory adjacent to this was able to pay only 43 cents for fat and could not buy skim milk at all. Warning is hereby given against the creamery promoter. He usually organizes with a capital stock twice the amount necessary for building and equipment, and salts half of it in his own pocket.

In spite of the fact that a price has been fixed for wheat, the best price anyone has offered in our community is $2 per bushel. The man who offers this is usually a local man. He in turn is acting for a larger buyer. The buyer probably sells to the elevator, which in its turn sells to the mill. The grain farmer of the West had this trouble of too many fingers in the pie until they built their co-operative elevators and did their own selling in carload lots directly to the mills. In the selling of hay we are confronted with the same problem. How one Eastern community solved the problem was told in an article that appeared in Pennsylvania Farmer about a year ago, giving the experience of the Onondaga Co., N. Y., Hay Growers' Association. Thus, it seems that if we are to successfully market our war products and get more nearly the prices fixed by our food administrator, we must resort to co-operation.

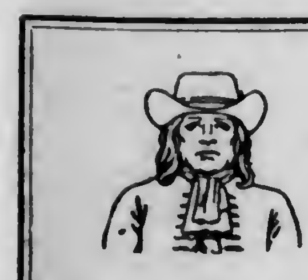
Little Economies

Thru necessity, and as a patriotic duty, it behooves us farmers to practice economies that are going to help toward winning the war. Here are a few that we are practising or will practice: In all the fences we are building, we find that if the wire is stretched and put at the right height, two wires are doing just as effective work as three or four did in turning mature cattle. Where we always burned coal in our stoves before, we are now using a lot of wood to help out on the coal question. On the matter of gasoline, pleasure trips in the car are omitted. Next summer at havest time we expect to economize on binder twine by making the sheaves larger, which will mean less twine. Concerted action by all on these few and many other lines are not going to mean much sacrifice on our part, and they are going a long way to help out the boys who are doing the biggest part in the trenches.

STUDENTS HUSK CORN

Students at the Pennsylvania State College this fall volunteered to spend one day husking corn on the college farms. Over 2,600 bushels of corn were harvested. The college agreed to pay five cents per bushel for this work and offered 10 cents per bushel to the student husking the greatest number of bushels during the day. The winner of this prize was D. R. Pheasant who husked 62 bushels. Several days later another group of students offered their services and as a consequence an additional 1,200 bushels of corn were harvested. Since then smaller groups volunteer almost daily. To date more than 5,000 bushels of corn have been husked on the college farms by students of the college.

Penna. State College Students Helping On Corn Husking



By the Way

By

Father Penn

Did you ever put a magnet down on a little pile of iron filings or a handful of pins and pull it away? If you did, you have noticed how the pins or filings were attracted to the magnet and were lifted with it. In the same way demand for labor and high wages attract and shift laborers from one place to another. Wages are the magnet, and if those in authority will recognize this it may help to simplify the solution of the present serious problem of farm production. Labor, land, and implements form a trinity in the production of the primal necessities of life. We have the land and the implements—plenty of them. The other member of the trinity, labor, is lacking. How is it to be obtained? Use the magnet.

It seems strange that the wise ones do not understand this simple little rule in economics. Instead, they are applying the magnet to other industries and attracting an already inadequate supply of farm labor away from the farms. While to many it is almost a treasonable offense to suggest higher prices for farm products to insure a sufficient production, yet returns to the farmer must be reasonably sure and great enough to enable him to make a little profit, or at least to break even, or he can not be expected to produce a large surplus. In order to be able to bid for labor in the open market he must have such returns as will enable him to pay the wages. Setting fixed prices for products without regard to the cost of production is unsound in principle, and experience is proving it so. In other lines, cost plus ten percent profit is the rule. Why should farming be an exception?

In other lines, the cost is ascertained at the completion of the job. In agriculture, so far as any attempt has been made to get at cost of production, it is computed for the future upon past experience. How can this be done in the midst of present conditions and for the uncertain future? Fixing the price for next year's wheat crop apparently did not increase the acreage. It will be interesting to see whether the present plan of finding the present cost of producing milk and of using that cost as a basis of future milk prices will stop the extensive slaughter of dairy cows.

The one element in the situation which the public understands is that it must have food. The thing it does not seem to understand is that it must pay such prices as will make the returns sufficiently great and certain to purchase labor for continued production. This will do more for increased production than all the patriotic addresses that can be delivered, and more than all the bureaus, experts, and official advice can induce. Agriculture is not the business of a conjurer, but requires brain and muscle and the muscle is lacking. It can be attracted by the magnet, cash.

The following is quoted from an editorial appearing in a journal devoted to the interests of commission men, and traders and speculators in farm products:

"The farmer is in no worse situation than other employers of labor. He can get his share of labor if he is willing to pay the price. But he has been papa'd by the Government so long and in so many ways (and by none more than by the present Administration) and been taught to whine like a mendicant rather than approach his business difficulties as other men must approach them or quit business, that now, when he is in distress and difficulty, he can't help himself, or will not so long as he thinks 'the Government' will somehow help him out."

Such expressions as these show dense ignorance on the part of the writer, or else a mendacity of spirit capable of misleading the public and misrepresenting the farmer. Farmers would willingly compete with others in the labor market if their incomes would enable them to do so. It is mighty hard to find any specific case of coddling the farmer. Most of the so-called cases would be better named hood-winking. Tell the truth tho it shames the officials.

A BETTER WAY TO DIG POST HOLES

Farmers have brought about improvements in most branches of farm work, but most of them are still digging post holes in the same old way that has prevailed during the last hundred and fifty years. It was only recently that I discovered a better method of digging post holes for the rail fences, commonly seen upon the farms in this country. The same method, of course, will apply to the making of post holes for barbed wire fences. The trouble with the post hole auger is that small stones, roots, or hard ground will effectually prevent its operation.

A short time ago I was building a fence along a line where the ground is especially hard. The work was progressing very slowly, and while picking and digging the earth, I kept my mind busy trying to devise an easier and quicker way. I had used dynamite quite a good deal for stump blasting and finally decided that it could be used for digging post holes. Procuring a long steel drive point that I use for putting down holes under stumps when about to blast them, I set to work with it on the hard ground, using a ten-pound sledge with which to drive it in. I first put down five holes as experiments.

The first hole I loaded with a half stick of dynamite, pushing it to the bottom the same as I would do if I were going to blast a tree hole. No tamping was done, as I desired the shot to blow out the top and wanted a narrow hole. This shot made a hole that was too large at the bottom.

Next I cut a half stick in two pieces and tied them to a small stick. One piece was tied to the end of the stick which was to go to the bottom of the hole, and the other about half way up the hole. The bore hole itself was about 20 inches deep. This shot made a much better post hole—one, in fact, that was so nearly perfect that it required only a little shoveling to clean out loosened dirt in order to make just the type of hole wanted for the fence posts.

By this method I found that three men could make about 300 post holes per day. This was more than three times as many as we could make with picks and spades, and on figuring it up, I found that the cost was approximately just half what it had been costing me to dig the holes. I am now recommending this method of post hole digging to all of my neighbors, many of whom are adopting it and like it immensely.—Chas F. Higgs.

HIGH CROP PRICES

"High farming can never be a remedy for low prices." Years ago this statement was made by an eminent scientist—was disbelieved for a time —was then tolerated—and is now taken almost as a creed with nearly all agricultural workers. This statement is true, as is also the converse. Present high prices of farm crops make high farming possible.

Years ago the farmers of Illinois, Iowa, and Minnesota burned their manure and straw piles. They had to—the piles were in the way. They obstructed the streets of the new growing towns and hamlets. With a soil in the first flush of fertility, and with wheat at low price, the cost of hauling and spreading was not returned in the increase of crop. So the manure and straw were burned, or dumped into hollows, or disposed of in any way possible. Today, the land is past its virgin fertility. Wheat is higher than ever. It pays to save manure and straw and so even in the far West, farmers this year are for the first time building cement feeding floors and cement manure pits, using fertilizer, and in other ways adopting measures which lead to high farming. High crop prices have made this possible.

The manure spreader not only does away with the hard, disagreeable work of spreading manure but it does the work better and in about one-fourth the time required for hand spreading. It easily save the wages of one man, makes the manure go farther and increases its fertilizing value. It is one of the most necessary and greatest money-saving implements used on the farm and yet it is reported that only about ten percent of our six million farmers in this country have purchased a manure spreader. This number should be largely increased during the next two years.

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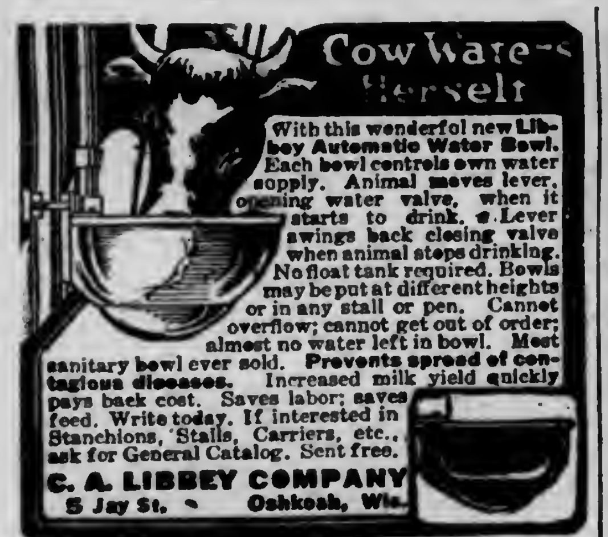

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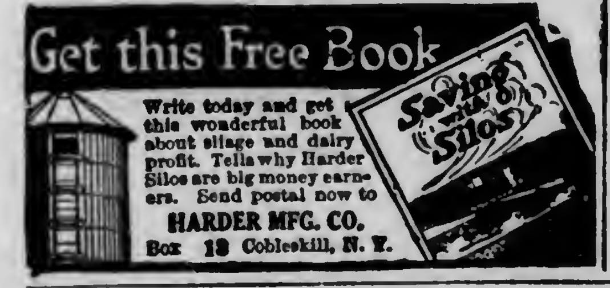

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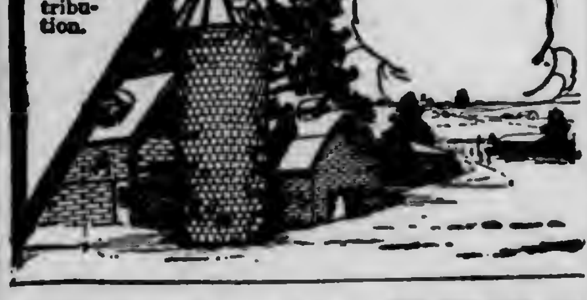

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New York Dairymen Meet

Forty-first Annual Session of Successful Association

War-time problems as they relate to the business of dairying were the outstanding features of the discussions and addresses at the 41st annual convention of the New York State Dairymen's Association, held at Syracuse, December 11 to 13.

President's Address

In his annual address, President George E. Hogue reviewed the history of the association from its organization 41 years ago, until the present time. This association has had a large part in bringing into existence the state department of agriculture, the college of agriculture and experiment station, and has been foremost in securing laws protecting both producer and consumer from fraud. While there has been much about selling dairy cows from slaughter, Mr. Hogue said he was unable to find evidence of heavy sales in Western New York. Some milk cows have been driven to slaughter as in previous years, but they were usually the cows that were unprofitable as milkers.

"I keep nearly 200 cows and I have sold some this year, but not one good milk cow," said Mr. Hogue. "My average production per cow has greatly increased thru weeding out the unprofitable cows. The conditions facing the dairymen, high cost of feed and labor, requires watchfulness on the part of the government lest the high price of beef tempt some to slaughter the profitable cows. A greater danger threatening the future of the milk supply is the slaughter of heifer calves. A dealer predicts that you won't be able to buy a calf next spring as they will all be sold to the butcher for baby beef; they will bring more as baby beef than to be raised for cows."

Mr. Hogue spoke of the need of loyally supporting the government by increasing food production and wanted the association to go on record in favor of the strongest cooperation with both state and nation during this war crisis.

Sale of Cows

"We must each do our bit by the dairy industry this winter, for it is at a critical period of its development," said Commissioner of Agriculture, Charles S. Wilson. "Last May dairy cows in New York showed a three percent increase over May, 1916, but during the last six months there has been an unusual falling off. We do not know exactly what the decrease has been, but according to figures gathered by the farm bureau agents from 1,500 farms, keeping 30,000 cows, there was from April 1 to August 1, a little more than 10 percent sold for slaughter. Should this rate continue, it would mean 31 percent, and undoubtedly more by now. There can be no doubt as to the reason for this decrease—the scarcity and high price of labor, the high price of feeds, danger from disease, and the generous prices offered for beef."

Mr. Wilson recounted what was being done by the state to help. The Food Supply Commission opened a bureau to supply farm labor. During the last summer upwards of 1,000 men were placed on farms. Branch offices have been established in New York, Rochester and Albany, working in connection with the farm bureaus. He made a plea for cooperation on the part of the farmers seeking assistance. He said: "You want good men. You know the inducements being held out by the munition factories—by factories of all descriptions. If you cannot offer money, consider the employe's viewpoint and think of other inducements. By a little effort you can furnish married men comfortable houses, fire wood, plenty of milk, and a garden. Follow the example of the progressive factory owner who, buying co-operatively, furnishes food to his employes at actual cost. From a purely selfish viewpoint this will pay, for you get back from the average man just about the same degree of consideration that you give to him."

Grow More Feeds

Mr. Wilson discussed the high cost of feed, urging that more feed be grown at home. The state department has had long experience in providing on a larger scale for its state institution farms. On the first day of every month it has figured out the cost of 100 pounds of digestible nutrients in all the principal values for that day. From now on this information was promised to any farmer in the state who desires it. It should enable him to purchase that feed giving the greatest value for his money.

Moisture Content of Cheese

An address on "The Percentage of Water in Cheese and its Determination," by Prof. Hugh C. Troy, of Cornell University, was especially interesting to the many cheese makers present. Prof. Troy said that the problem of the New York cheese maker in making full cream cheese was to produce a marketable article and keep within the legal limits of 39 percent moisture. Experts have shown that as the percentage of fat goes down, the moisture content increases. When you get below 33 percent of fat, there is great danger of having more than the legal percentage of water. Not one cheese in 100 that had more than 39 percent of moisture had more than 33 percent of fat. There was some opposition to the law limiting the moisture content in full cream cheese to 39 percent. One buyer said a 39 percent moisture cheese did not please his Western trade; it was too dry. Professor Troy quoted letters from cheesemakers for and against the law, but said he would advise the raising of the legal moisture requirement to 40 percent.

Impure Milk

The losses from diseases caused by impure milk in New York state amounts to many millions annually, according to James E. Thomson, chief inspector of the division of milk of the New York City Department of Health; yet, he said, extravagant expenditure for elaborate equipment is not necessary for the production of good market milk. The pasteurization of milk has resulted in a great reduction of the death rate, but no process that depends upon human endeavor is perfect. Cleanliness is necessary in handling milk. Mr. Thomson discussed the failure of the barn score card to give satisfactory results, and quoted Dr. North as saying that conditions of the barn may have only one percent effect on quality of milk, while cleanliness of cans and other milk utensils may effect the purity of milk to the extent of 90 percent.

Mr. Thomson would substitute a report card, containing questions on the health of cows, water supply, conditions under which cows are kept, cooling milk, how utensils are cleaned and sterilized, etc. A bill will be introduced in the legislature this winter for the purpose of adopting this report card system.

The Dairy Score Card

"The Dairy Score Card and Its Relation to Milk Quality" was the subject of an address by Dr. Robert S. Breed, bacteriologist at the Geneva experiment station, in which he said that no milk is good that contains disease germs, but these germs are not as prevalent as is commonly believed. In the early 90's, it was then believed that bacteria was synonymous with disease germs. It has been learned, however, that healthful milk can contain much bacteria. Nine hundred and ninety-nine barn dust particles out of 1,000 are sterile, carrying no bacteria. Dirt and dust do not carry into milk so much harmful bacteria as the public has been led to believe.

The score card has not been so successful in controlling quality of milk as it was expected it would. Some farmers that had the highest scores were found to be producing high count milk. Other farmers who were working with modern equipment were producing the best milk. The inspection of milk as it is produced instead of scoring the barns will bring better milk control. Dr. Breed did not carry the impression that dirt is desirable, but said that dirt does not carry the bacteria. Bacteria comes from germ-laden dairy utensils. Greater attention must be given to sterilizing utensils and also to proper cooling of the milk.

The Cow

"Without a good dairy cow no milk can be produced at a profit," declared Prof. H. H. Wing, of Cornell University, who spoke on "The Dairy Cow and the Cost of Production." About 30 years ago, according to Professor Wing, a dairy census showed that the cows of New York state were producing 3,000 pounds of milk a year. In 1900 the average production per cow was 4,500 pounds a year. The average cow at that rate would not maintain herself. The 1910 census showed an increase of 32 pounds per cow in 10 years, which was very discouraging, considering all the efforts that had been made to increase production. Professor Wing spoke against the practice of selling the good cows. Two men from a neighboring state were mentioned, who recently made a contract with a dealer near Ithaca to furnish them a carload of cows with a guaranteed production of 8,000 to 10,000 pounds of milk a year. The price was $200 a head. This meant the selling of the best cows on the farms of that neighborhood, then the farmers were asking the public to pay a profit on milk from poor cows, which is not just. It takes courage to keep the best cows and get rid of the less profitable ones, but this will have to be done if dairies are made profitable. He deplored the fact that well-bred bulls are a drug on the market at 10 percent of their real value, and that an investment of $500 in a well-bred bull is the nearest to being easy money of anything we can get. If dairymen are going to increase production, it means getting rid of poor animals and keeping the best cows and all the good heifer calves.

Food Administration

The urgent need of conserving food was strongly emphasized by Dr. Henry C. Culbertson, representing the Food Administration. Responding to an inquiry, Dr. Culbertson said the Food Administration is working to bring down the price of dairy feeds, and results may be expected soon. He gave some facts in stabalizing prices. If the increase in prices during the first six months of the war had been as much in proportion, he said, as they increased during the first six months of the Civil war, the retail price of corn would be $6 a bushel, wheat $5.40 a bushel, cattle $41 per 100 pounds and hogs $59 per 100 pounds.

Standardized Milk

Dr. L. L. Van Slyke, of the Geneva experiment station, discussed the standardization of milk, which he defined as milk in which the orial fat content has been changed in its relation to other milk solids. His talk was timely in view of the movement in this state to have the dairy law changed by permitting the sale of milk in which the butterfat content is standardized to a legal percentage, the fat being added or reduced to meet this requirement. If the law is amended he insisted that it should require that all containers be plainly marked with the word "Standardized," and the minimum percent of fat. Then milk will be sold on a guaranteed basis.

Election

The election of officers resulted as follows: President, A. L. Brockway, of Syracuse; vice president, Prof. H. C. Troy, Ithaca; secretary, Thomas E. Tiquin, Albany; assistant secretary, L. D. Spink, Attica; treasurer, R. R. Kirkland, Philadelphia; directors, W. E. Dana, Avon; W. N. Giles, Skaneatles; E. G. Dietrich, Syracuse; H. J. Richardson, Lowville; Dean F. A. Howe, Syracuse; W. A. Stocking, Jr., Ithaca.

Resolutions

The committee on resolutions made a report pledging hearty support to the government in the conduct of the war; approving the federation of all societies in the state interested in agriculture and recommending the appointment of a committee to assist in developing the plan; urging upon every farmer the necessity of keeping swine; approving the pasteuriation of milzk and whey and teurization of milk and whey and plants; favoring the standardization of milk under proper regulations and safeguards; approving cattle census conducted by the State Food commission; approving the principle of the law regarding cheese moisture content, but recommending that it be so changed as to allow the cheese manufacturers of New York state to compete with those of other sections; approving the idea of the organization of its agricultural branch of the army for work on the farms; that in view of the prevailing high prices of feed and labor accurate milk production costs be kept; favoring the principles of cow-testing associations. These resolutions were unanimously adopted.—R.

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650 Silo Bldg., Kansas City, Mo.
650 Indiana Bldg., Des Moines, Iowa
650 Live Stock Exchange Bldg., Fort Worth, Texas

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Last year we urged some of our investor friends to purchase certain farm lands in Eastern Oklahoma which were then offered at from $35.00 to $50.00 per acre. Many of these farms in 1917 earned for their owners several times the cost per acre in 1916. We still have a few farms listed for sale at very attractive prices. They are worthy of the consideration of any man who wants to buy a farm. We do not own these lands but with a view to increasing the number of farmers along our railroad, and thereby building up our trade territory, we have interested ourselves in the matter of distributing information in territory where we know there are good farmers, hoping that we can move some of them into Eastern Oklahoma.

We do not charge anything for our services. We will be well repaid if our territory is built up by the removal thereto of a number of men who know how to farm. If you are interested in a farm in Eastern Oklahoma, of the kind referred to above, write me for particulars.

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Industrial Commissioner M. K. & T. Ry.,
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Silos For Sale 2 "Green Mountain," 8x18 and 10x20 1 "Blizzard" Ensilage Cutter, mounted on truck self-feeding table. All practically new. PATCONG FARM, Linwood, N. J.

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PHILADELPHIA, PA., DECEMBER 29, 1917.

For the New Year

As the year closes it is a good plan to sit down and carefully and honestly review the activities of the past season—the successes and failures, the losses and gains. No doubt our readers will have their share of each and all. At times we may be inclined to feel that we have had more losses and failures than anything else, but this is often due to the overlooking of many things worth while. There are some losses which cannot be replaced and some failures which cannot be retrieved, but there is always the opportunity of building anew and of profiting by the mistakes made. We greet our readers with the compliments of the season, and bespeak for them the best the New Year can bestow.

* * *

The Last Objective

The following quotation is from a letter written by an American farm boy who has been ni France since early in the summer. His word to his father may be of interest and inspiration to other fathers. He says: "You have had a hard year Daddy, but rest assured that good old Uncle Sam appreciates the bit that you have done on the old farm. When a part of that bean crop comes to France it will help wonderfully in giving some soldier boy the necessary strength to keep on to the last objective."

* * *

War-Time Problems

Every reader should carefully consider the article on first page of this issue on the war-time problems on the farm. There are many problems which are so great and have so far-reaching influence on farming generally that many farmers feel that they can do little in solving them even in their own management. But Farmer Pete has given his own problems considerable thought, and he has given us in this article, many suggestions that should be of value to others. Labor, machinery, feeds, fertilizers, and, in fact, everything that must be purchased on the farm are high in price. The market situation is unsatisfactory. Many of these factors must be improved if it is to be possible for the farmers to do their full share in supplying the world with food. The farmers as a body must push the need of such improvement thru their organizations, and in every way possible. But aside from this, every farmer must work out his own problems. And it is in such effort that Farmer Pete gives us the advantage of his thought and experience.

Pete is not quitting. Perhaps he has obligations that make it necessary for him to make the old farm return its greatest possible yields in crops and money. Perhaps he is even fortunate if such financial obligations are resting upon him. But we have all an equal responsibility in doing all we can to help the present great struggle of the country. On one of the battle fields of France there is a headboard carrying these words:

"Poor old Bill, he left this place
With smoking gun and smiling face,
But Bill won't care if some good chap
Will come along and fill the gap."

There are gaps to be filled with men and food. There are gaps that must be filled if poor old Bill shall not have died in vain, and Farmer Pete helps show us the way.

* * *

More Hogs

The call for more hogs on eastern farms is not one of patriotism alone. With the present conditions in the live stock business it is good farming to plan on raising more hogs next spring and summer. Prices on all pork products are high, and there is little possibility of their being lower for many months to come. Certainly there is every prospect that good pigs to pay profitable dividends next summer and next fall. There is need of more hogs to consume the waste materials that would otherwise be thrown away. Every farm should keep as many hogs as it can maintain without change in the regular farm system, and many will find it of advantage to plan now on such changes as will be necessary to carry hogs as an important side line. Do not try to keep hogs without pasture. Every practical test shows that pork is grown cheaper with good pasturage. Now is the time to plan on the location and the kind of pasturage that can best be provided next spring.

* * *

Coals to New Castle

It is reported that the Secretary of the Interior suggests a Federal appropriation of something like two million dollars to purchase seeds and equipment for the cultivation of untilled lands in this country. The suggestion is made in the interest of greater production of farm crops, and is based on the assertion that there are approximately 600,000 acres not now in use that are susceptible of cultivation. It is getting mighty easy to find excuses for Federal appropriations, and not much harder to get them thru. But opening new farm lands at a time when there is not sufficient labor to operate the acreage now under cultivation comes near to being the limit. A total of 600,000 acres of land is a large acreage, but it is no larger than the amount that will have to be permitted to lay at waste in the older farming sections of the country unless there is some solution of the labor question.

* * *

Must Farmers Pay An Income Tax?

The answer is they do, just as does every other person whose income is taxable. We have no doubt but that some of our readers will be subject to the tax and it should be a matter of investigation by all who are uncertain about it. The responsibility rests with the taxable to make the proper returns and every one whose income approaches the minimum should send to the Internal Revenue Collector of his district for two blanks, if he has not already received them. If there is any doubt in your mind about how to fill out the blanks, get your banker or some other qualified person to help. Failure or neglect by any one subject to the tax to send in their blank is punishable by heavy fines or imprisonment.

The tax is levied on the net income; that is, on what is left after certain specified deductions are made. A single person, man or woman, whose net income is $2,000 is subject to a tax of $20. A married person is subject to the tax when the net income amounts to $3,000 or more; in other words, such persons are allowed an exemption of $1,000 and are taxed on $2,000. A further exemption of $200 is allowed for each dependent child under 18 years of age, and $200 for each older child if he or she is incapable of self support.

To find out about where you stand relative to the income tax put down the total value of all the crops disposed of in 1917, the value of all live stock and their products sold, the amount of all profits in trade, sales and exchanges, all rents, dividends and interest received. This amount will be your gross income. You are allowed to subtract all necessary expenses actually paid during the year in running the farm, NOT INCLUDING any personal, living or family expenses. After the above deductions are made, the remainder will be your net income.

* * *

Progress of Prohibition

That the nation is in earnest on the question of prohibition is shown by the promptness with which Congress finished the work of passing the prohibitory amendment act upon convening. The Senate passed the bill last spring by a safe two-thirds majority, and the vote in the House last week showed 10 votes more than was necessary. It must now be passed by the legislatures of three-fourths of the states (36 being required) before it becomes a part of the Constitution. Congress has placed the questionable limitation of seven years in which this may be done in the bill. Already we find some papers which nominally stand for temperance and local option opposing nation-wide prohibition as an undemocratic measure, in that it would enable the three-fourths to enforce a principle which some state or states might not desire. We thought democratic government was based on such a principle.

* * *

Taxes or Bonds?

It is amazing, to say the least, to learn that Secretary McAdoo recommends that Congress provide all the immense sums for continuing the war by bond issues and thus avoid further taxation. We want the people to take note of the methods of financing these huge sums so that responsibility may be readily fixed. There will be some embarrassing questions come up before politicians for explanation when the war is over and the real pinch comes, and we advise our readers to keep tab on their officials and note those who fail to stand up for an equitable distribution of the burden of war-debt. That it is the policy of Big Business and the big financiers to throw dust in the eyes of the public by crying "traitor" and "disloyalty" at the men and journals which demand taxation according to excess profits made was shown during the past year.

One of the surest ways the Government could pursue to alienate the confidence and loyalty of the common people would be the adoption of a financial policy which would foster the accumulation of great wealth by a few while placing an intolerable burden upon the many. During the past year the number of millionaires in America increased 50 percent, or about 14,571 to 22,696—the fortunes ranging from one million to one billion dollars.

If the estimated amount of money required for next year is to be raised by the present tax law and the issuance of bonds, it will require bond issues amounting to $9,969,000,000 between now and next June. This is almost twice as much as was raised by bonds in 1917. In the meantime, war profits continue to increase while the maximum excess tax should remain at 31 percent according to Secretary McAdoo's advice, instead of adopting England's policy of taking 80 percent of such profits.

The Constitution provides that all bills for raising revenue shall originate in the House of Representatives—the body most directly representing the people. While the Secretary of Treasury has the right to advise in such matters, so have the people and they should make their sentiments known. In a democracy the people must retain their right of expression on matters of policy and government, and guard against any tendency towards a bureaucracy, which form of government is first cousin to autocracy.

* * *

Take Time To Read and Think

In addition to the strenuous labor demands of the present times, there is also a necessity for every citizen to do straight thinking. In order to do this effectively it is necessary to seek every avenue of reliable information so that our judgment may be helpful. The nation needs the counsel of its citizens, tho not of the carping, critical kind, but advice and counsel which is constructive. Events are happening so rapidly and history is being made every day so that they who would be intelligent citizens must see to it that they take time to think and to read—and be sure that the reading matter is sound and unbiased.

HARRISBURG NOTES

The Mid-Winter Meetings.—Men interested in state politics and in governmental affairs are commencing to discuss the meetings of the State Board of Agriculture and allied bodies which are scheduled to meet here toward the latter part of January, and to speculate as to what will be said at the various sessions about the state administration. There is no question but what the men aligned with Dr. Brumbaugh propose to play up the farmers who will be here in an effort to head off any criticisms because of the failure of the administration to do all that was promised in the way of "agricultural advancement", "making the loafing hillsides work" and "making life sweeter and happier in the countryside" and to secure support when the time comes at the primaries. That the state administration is going to have a full set of candidates not only for state offices, but for congressmen in many districts and for senators and legislators is a foregone conclusion and it will do its utmost to maintain its people in power after Dr. Brumbaugh returns to his books. It will make an effort to win support among the farmers altho, because of its city alliance, this may not be as successful as last year, even tho the administration may make the prohibition amendment its own cause.

Plenty of Premiums.—The proposed second annual mid-winter show of corn, potatoes, wool, apples, vegetables and other produce to be held here during "Agricultural Week" is being planned on a very ambitious scale and if the transportation facilities can be made to work right there should be an assemblage of products which will be of more than state wide interest. Statistics now available regarding the state's foodstuffs have attracted much attention. There will be over $1,100 in premiums for the show and the classification has been carefully worked out.

Vocational Cash.—Dr. Nathan C. Schaeffer, the state superintendent of public instruction, is urging people interested in learning how to teach agriculture and other useful occupations to take advantage of the funds which will be available for such training thru the state and federal appropriations. Dr. Schaeffer is of the opinion that there is a great field for such training in Pennsylvania. The superintendent does not refer to appropriations and to the school situation in his report, but leaves that for next year. He does urge thrift and deprecates the gospel of hate growing out of war.

To Talk It Over.—Present plans about the Capitol are for the State Commission of Agriculture to be summoned for a meeting to talk over the differences between its members and Secretary of Agriculture Patton which have been cried up and down the whole state and disgusted many people who expected great things from the commission form of government. Governor Brumbaugh is said to be irritated because of the rejection of Chief Dorsett, of the Bureau of Markets, and to desire to reason with the commissoners. If they decline to accept the way things have been going they will be permitted to resign. It is said that the governor has some new men in view anyway.

Inquiries About Tractors.—Secretary Patton's suggestion that people in communities, or identified with commercial organizations, unite in purchase of tractors for next year's ploughing has resulted in many inquiries being made at the Capitol about the way tractors have operated in other parts of the country and information is now being compiled as to cost of maintenance and work done in this state and others. Considerable information for persons interested will be available soon. The greatest trouble seems to be to get deliveries. Experience in Lancaster, Montgomery and other counties where tractors have been employed is being sought.

The Boys' Camps.—In a short time announcement will be made of the plans for establishing boys' camps for rudimentary instruction in agriculture next summer. The idea is to get high school boys and other lads who are willing to work in the country organized into camps and after some outdoor life to have them go and help farmers. The State Public Safety committee will provide the funds. The camps will run ten weeks.

Want Seed Corn.—The Department of Agriculture is on a hunt for seed corn. There will be a great shortage in the spring it is feared because of close selling and the amount that was killed in the September frosts. Men coming here from northern counties say that those districts are practically without seed corn.—Hamilton, Harrisburg, Pa., Dec. 23.

NEW YORK LETTER

Fifty Thousand Farm Workers Lost.—J. C. Huson, former State Commissioner of Agriculture says the state has lost 50,000 farm laborers within the past two years mostly thru war demands. He advised the farmers to be patient. Farmers take the advice quietly but all have decided that they must cut down production next year. Onondaga County is leading the state in an effort to get farm labor from the regular draft, using men not capable of real army service. Dean Howe, of Syracuse University and A. L. Brockway for the county committee went to Washington last week to confer with leading officials on the matter. Farm Bureau Manager Teall and W. C. Hunt, the chairman of the board of supervisors were in Albany last week to place figures before the Governor and Senator C. F. Wicks, who is to draft a farm labor bill for the next legislature. There have been 459 denials of claims for exemption from draft in the 12 counties of Central New York, on agricultural grounds, taking no account of the large numbers of farm workers who have enlisted voluntarily. This represents the best of the skilled farm help in this section, and other sections have suffered proportionately. Only compulsory farm service can save the day now, as the prices of produce received by the farmer do not allow him to pay prices for labor that can compare with other lines of work and all the available help not accustomed to country life and prices will not do farm work on prevailing prices.

Milk News.—One company of Brooklyn milk dealers has failed to make payment for October and November milk. The farmers of Dryden have about $12,000 tied up, and the farmers of Cazenovia about $7,000. A part payment of 25 percent of the October milk has been paid, and it is hoped that 10 percent more will be paid monthly until all are reimbursed. The Evans Dairy Company has rented the stations and are doing business.

Indians Make Good Farmers.—Thru the help of the Indian Welfare Society the Indians were all enrolled on the draft lists, but were allowed to remain at home, providing they would do their bit at farming. They have made good the past year. There are 6,100 acres of land on their reservation, of which 2,500 were made tillable—an increase of 620 percent over the previous years. Thru the medium of agriculture, the pagan and Christian Indians have been united in a common cause. The farm bureau and the state college have helped. Two years ago less than 30 cows were owned on the Reservation. Now 182 are owned. Now over 75 Indians operate farms, and hire as many more Indian helpers.

Reviving the Sheep Industry.—Thru the Patriotic Farmers' Fund and its treasurer, Marc W. Cole, of Utica farmers who will use the money to purchase breeding stock may get loans of $100 for the purchase of swine and $300 for the purchase of sheep, the latter being encouraged most as it helps the supply of both wool and mutton. Boys' and girls' pig and sheep clubs are being formed, loaning the young folks money for this purpose without adult endorsement. Six percent is charged on the loans. No loans are to be made to encourage beef production, as the other two lines are believed to be most needed.

Holstein Breeders to Organize New Bureau.—Hon. O. U. Kellogg, of Cortland; A. L. Brockway, of Syracuse; C. W. Halliday, of N. Chatham; P. B. Noyes, of Oneida Community and F. H. Stevens, of Lacona, will make a strenuous effort to have a special bureau established in connection with the food administration work to deal with animal, plant and veterinary industries of the state.

New School Law Opposed.—The opposition of the new state school law is gaining strength all over the state. It is hoped to modify some of its measures at the coming legislature, if entire repeal cannot be gained.—F.

NEW JERSEY FARM NOTES

Sales By Weight.—There should be no further delay in the taking of steps to amend the law in New Jersey so that all commodities will be sold by weight, declares the annual report of State Superintendent of Weights and Measures Frank Wanser, just submitted to Governor Edge. He holds that it is an injustice to continue the dual law permitting the sale either by weight or by measure. He instances as inconsistency the sale of potatoes. He says the merchant purchases the tubers by weight from the farmer, receiving 60 lbs. to the bushel, and in disposing of them sells by measure giving 55 or 56 pounds actual weight, a gain to the dealer of four or five pounds on the bushel.

Apple Judging Victory.—There was a victory for the team representing the N. J. State Agricultural College in the recent Fourth Annual Apple Judging Contest held at the Pennsylvania State College under the auspices of the State Intercollegiate Fruit Judging League. New Jersey was first, followed in the order named by Ohio State University, Iowa Agricultural College, Pennsylvania State College, and West Virginia University. Each team was composed of three under-graduates, and the contest consisted of judging three plates each of 20 selected varieties of apples, 60 plates in all. The State College in the four years of competition has won first place two years and second and third places once each. A college must win three times before it will receive the cup offered by the West Virginia Agricultural College.

Order Packages Early.—Produce shippers and farmers in general should take immediate steps to insure a supply of packages for their fruit and vegetables next year. Embargoes from other points have curtailed the shipments of basket bottoms and slats for crates. Many factories in the state report that they are preparing to close down because of lack of supplies. In previous years it has been necessary for these factories to run all winter in order that a sufficient supply may be on hand in the spring. Those who find it necessary to use second hand packages should make preparations for removing any old marks on them. They can be strengthened and "fixed up" during the winter months.

Highways.—The State Highway Department in its annual report shows that a total of $1,083,751 from the motor vehicle fund was devoted to road repairs during the past year. There was also carried forward from this fund approximately $1,700,000. Since the first law enacted in 1893 providing state aid for county roads, there have been 2,111 miles of road built. The report says that work on the new $15,000,000 highway system is expected to be launched just as soon as good weather comes in spring. Satisfactory progress has ben made in using men from the State Prison on road work, and one of the division engineers advocates that they be paid a daily wage.—L.

PENNSYLVANIA FARMERS' INSTITUTES

First Section.—Adams County, New Oxford, Jan. 1; Hunterstown, Jan. 2-3; Arendtsville, Jan. 4-5. Speakers, Wm. M. Patton, L. W. Lighty, S. W. Fletcher and Prof. J. G. Sanders.

Second Section.—Indiana County, Marchland, Dec. 31-Jan. 1; Dilltown, Jan. 2-3; Hillside, Jan 3-4. Speakers, J. Stuart Groupe, M. H. McCallum, Vern T. Strouble and Geo. H. Rea.

Third Section. — Westmoreland County, Export, Jan. 1; West Newton, Jan. 2-3; Latrobe, Jan. 4-5. Speakers, Sheldon W. Funk, Carl B. Thomas and Hannah McK. Lyons.

Fourth Section.—Forest County, East Hickory, Dec. 31-Jan. 1; Jefferson County, Kirkman, Jan. 2-3; Big Run, Jan. 4-5. Speakers, J. T. Campbell, Dr. John N. Rosenberger and R. O. Umboltz.

Fifth Section. — Northampton County, Sherryville, Dec. 31-Jan. 1; Monroe County, Kresgeville, Jan. 2; Broadheadsville, Jan. 3-4; Tannersville, Jan. 5. Speakers, D. H. Watts, W. Theo. Wittman and Prof. Franklin Menges.

JANUARY FARMERS' INSTITUTES

The extension division of the New Jersey State Agricultural College announces the following farmers' institutes for January:

Jan. 3, Ringoes, Hunterdon Co.
Jan. 4, Mt. Holly, Burlington Co. (County Board of Agricultural meeting).
Jan. 4, Dayton, Middlesex Co.
Jan. 5, Paterson, Passaic Co.
Jan. 8, Sergeantsville, Hunterdon Co.
Jan. 9, Leesburg, Cumberland Co.
Jan. 10, Cedarville, Cumberland Co.
Jan. 10, Middlebush, Somerset Co.
Jan. 11 and 12, Vineland, Cumberland Co.
Jan. 11, Lebanon, Hunterdon Co.
Jan. 12, Allenwood, Monmouth Co.
Jan. 14, Woodbine, Cape May Co.
Jan. 15, Palermo, Cape May Co.
Jan. 15, Trenton, Mercer Co. (County Board of Agriculture meeting).
Jan. 16, Clarksburg, Monmouth Co.
Jan. 16, Columbus, Burlington Co.
Jan. 16, New Vernon, Morris Co.
Jan. 16, New Vernon, Morris Co.
Jan. 17, Lambertsville, Hunterdon Co.
Jan. 17, Mt. Freedom, Morris Co.
Jan. 18, German Valley, Morris Co.

FARM MEETING CALENDAR

Pennsylvania Farmers' Week, State College, Pa., December 26-29.
Madison Square Poultry Show, New York City, December 28-January 2.
Delaware Corn Growers' Association, Middletown, Del., January 2-4.
New York State Breeders' Association, Syracuse, January 8-10.
New York State Fruit Growers' Association, Rochester, January 9-11.
New Jersey Corn Show, Trenton, January 23-25.
Agricultural Week, Harrisburg, Pa., Jan. 22-24.
Agricultural Week, Trenton, N. J., Jan. 22-25.
New York State Grange, Syracuse, N. Y., Feb. 5-8.
New York Farmers' Week, Ithaca, N. Y., Feb. 11-16.

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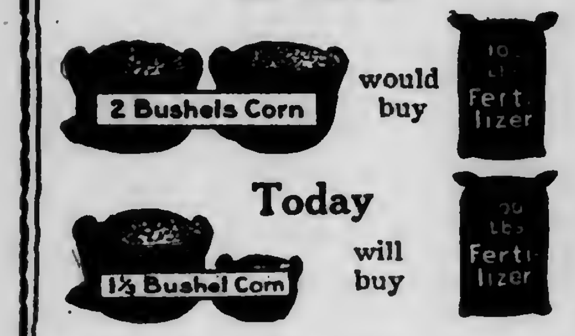
Fertilizers Pay Better Than Ever

TODAY a bushel of corn or wheat buys more fertilizer (potash excepted, of course) than at any time during the past three years.

Note how much cheaper you can buy a 2-10 fertilizer now than before the war.

In 1914



In terms of farm products, fertilizers cost less today than in 1914.

Fertilizers paid you *then*—they will pay you better *now*.

Fertilizers are today more profitable and more necessary to efficient production than before the war. Grow more per acre and increase your profits by using fertilizer.

Help both the railroads and yourself by ordering Spring Fertilizers *now*.

Send for literature to Dept 17

Soil Improvement Committee
of the
National Fertilizer Association
Postal Telegraph Bldg. Chicago
The Munsey Bldg. Baltimore

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GARDEN TOOLS
Answer the farmer's big questions: How can I have a good garden with least expense? How can the wife have plenty of fresh vegetables for the home table with least labor?
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solves the garden labor problem. Takes the place of many tools—stored in small space. Sows, covers, cultivates, weeds, ridges, etc., better than old-time tools. A woman, boy or girl can push it and do a day's handwork in 60 minutes. 38 combinations $4.60 to $30.00. Write for booklet.
No. 6 Drill and Wheel Hoe
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TAKE NOTICE

OLD BAGS BOUGHT

One of our customers received $50 for what he thought worth $25. Get our price list. References

DAVID N. KNOTT'S SONS
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FULL VALUE PAID

Farmer Wanted thoroly competent married man to take charge general farm of about 300 acres in Chester County. Address Box 1C. PENNSYLVANIA FARMER, Phila., Pa.

Notes on Fruit Marketing—II

Importance of Proper Packages and Packing

By Dr. J. P. STEWART, State College, Pa.

The importance of proper grading and picking of fruit is well illustrated by a recent experience in Bedford Co., Penna. In that county, a good crop of average apples was being produced, but the standards of grading and packing were so low that sales were difficult at any price. At this junction one of the station men, Mr. F. Mason, was called upon for help.

On arrival at the shipping point, he found a large quantity of ordinary, orchard-run fruit, which was being sold at 60 to 90 cents per hundred. This fruit was carefully sorted and about 40 percent of it was found to be fit for barrels or boxes. The latter fruit was then properly sized, graded and packed in appropriate packages, and a trial car, one half in barrels and the other half in boxes, was sent to Philadelphia. At the same time, another car of the usual type of fruit sent out of the country, was sent in barrels by a local shipper to the same market.

The results were as follows: The ungraded fruit in barrels sold for $1.40 to $2 per barrel, with the average for the lot not stated. The half car of boxed fruit brought from $1.35 to $2.10 per box, with an average of $1.65 for the lot, and the graded fruit in barrels sold for an average of $3.15. The remaining 60 percent of rejected fruit was sold in bulk at the same rates as the whole lot was bringing before, thus affording a striking demonstration of the general fact that it is the poorest fruit in a lot which usually determines the prices. The varieties involved in this case were Baldwin, Ewalt, Norton Melon, Newton, Spitzenburg, and Winesap. Only the ordinary methods of grading and packing were used, and the resulting increase in value of the product was far in excess of the expense involved.

Importance of Producer's Name, Brand, or Guarantee

Recent inspection of one of the leading markets of the country has again emphasized the fact that only a small percentage of the vegetable growers yet realize the importance of packing their products in a careful and attractive way and then accompanying it with their names, guarantee, or a definite mark or brand. If one were to find a manufactured article on the market, with no indication of the source of production on it, it is quite probable that he would not purchase this article unless the price was exceedingly low. In other words, buyers are generally suspicious of any manufactured article, upon which the manufacturer is unwilling to place his name. In fact such articles are likely to be classified and sold as junk. The farmers are the only general class of citizens who can regularly offer their products as junk and still survive.

In the case of the fruit or vegetable grower, however, this is not at all necessary, and those with sufficient skill and intelligence to break away from the general practice and place a good article on the market, —backed by their own name, brand, or guarantee—will generally make a good profit. General examples of this are numerous, in the "Sunkist" oranges, the Hood River apples, the famous Hale brand peaches with their card enclosed reading "U-C top, U-C all." Other less pretentious but equally effective schemes are the blue-rimmed vegetable hampers, with grower's name and address stenciled on, which have usually netted a 10 to 20 percent advance in price over the competing unmarked produce, to Horace Roberts and others in New Jersey. Numerous other cases might be cited, in both general and local markets, but they all point in one direction, viz., that the grower of either fruit or vegetables who puts up a good, honest pack in an attractive package and then gets behind it with his own name or guarantee will practically always profit by it.

BIG POTATOES

In Pennsylvania Farmer of November 3, a story of big potatoes appears. The largest weighed one pound and 11 ounces, and the largest hill produced two pounds and 14 ounces. I will tell the story of a potato, if not the biggest, it is the oldest that can be produced. When I was about ten years old, on the rich, alluvial soil of the French Creek Flats near Saegertown, my father and I were digging potatoes. The variety was called the Neshanick, and the yield was tremendous. There had been some strife and competition about large potatoes. Our land was stumpy; this hill had been planted close to a large stump, and as I rolled out the tubers I hooked on to one that would not move. I called to father that here was a potato so large that I could not get it from the stump. We excavated the dirt under the potato, and we had the prize winner for that season. There had been potatoes deposited at the village store weighing two and one-half pounds; this one tipped the scale at two and three-quarters, quick weight. I was the champion, and the youngest, competitor. That was 75 years ago. I have raised potatoes ever since, and have learned many things by actual experience. I have given away hundreds of bushels when they were so plentiful one could not sell them, and I have sold them as low as $10 for a hundred bushels. Last year I paid at the rate of $4.50 a bushel for a few to plant. There is much more I wish to say on this subject, as the outlook is that potatoes and other food stuff are liable to be more important to the warring nations than gold. When the potato crop failed in Ireland, famine and pestilence prevailed.—W. R. McGill, Crawford Co., Pa.

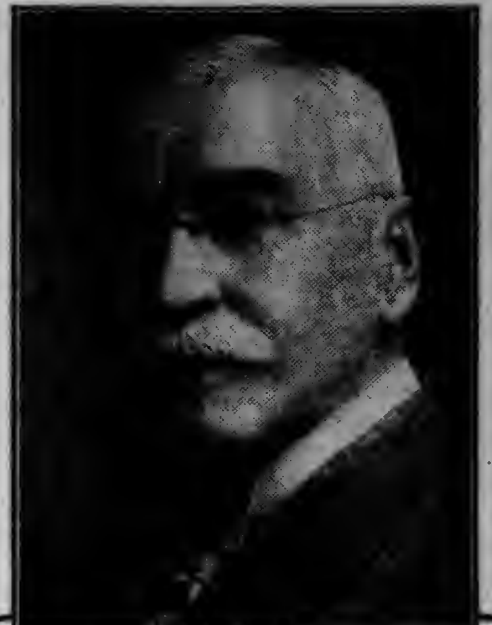
NEW YORK FRUIT GROWERS' ASSOCIATION

The 17th annual meeting of the New York State Fruit Growers' Association will be held at Exposition Park in Rochester on January 9, 10 and 11.

According to announcements issued by Secretary E. C. Gillett, plans are being perfected for a larger fruit show than ever this year and this is saying a good deal for the State Fruit Growers' show is one of the largest in the United States. Space for exhibits of machinery, insecticides, nursery stock, orchard supplies, etc., is largely taken now, so a big show is assured.

The educational program includes addresses, discussions, and demonstrations by such able fruit specialists as L. F. Strickland, of Lockport, Professors T. L. Lyon, R. W. Rees and W. H. Chandler, of the State College of Agriculture and H. C. Hetzel of the Office of Markets and Rural Organizations, Washington, D. C., R. D. Anthony, of the State Eperiment Station and others have promised to come.

The display of machinery, the secretary says, will be of unusual interest this year because of the farm labor shortage which brings the question of farm machinery home to the farmers.



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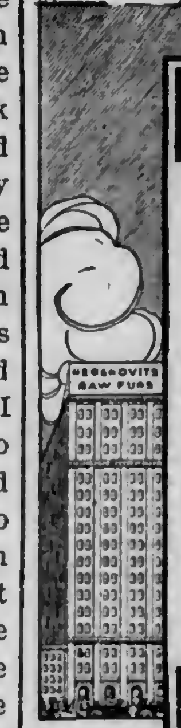

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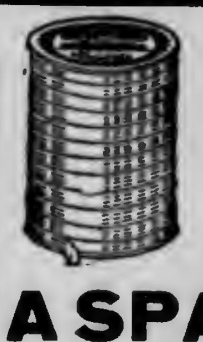
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MARYLAND NOTES

Those who have never used the double-glazed hot bed sashes can hardly realize the advantages they possess over the light single glazed ones on the cold frames. With a frame well banked on the outside, or sunken, no frost we ever have here will go thru to do any damage to lettuce, beets, radishes and the flowering bulbs of hyacinths, etc.

The first double glazed sashes had the disadvantage that the dust gathered in between the two layers and darkened the glass. The glass was fastened in, and the darkening was finally so serious that the sashes were practically useless.

Now, they have been improved by slipping the glass in and butting the panes, and arranging so that it is easy to remove a few lower panes and turn the hose in and wash out the glass. This is so easily and quicly done that all objections to the double sashes have been removed. Some have objected to them because of their extra weight, but down heer in this flat country between sea and bay the sweep of winds makes this extra weight desirable. I have had the light single sashes jump up and fly away, but have never known one of their extra weight, but down here blown off.

With gardeners who make frames simply of two boards staked to the ground with no crossbars the extra weight is a matter of importance. But this sort of frame is no economy in these times of scarce labor, for it takes two men to handle the sashes while one can handle them easily where there is no means for sliding them up and down the frame, and the cross bars dovetailed to the sides keep the frame together.

The long frames are all right for the market gardener. but in the home garden it is far better to divide the sashes in small portable frames. I have no frames larger than three sashes, and if I need more frames I would never make one larger. There are many advantages in the small frames either for cold frames or hotbeds.

My frames are made with corners screwed to angle iron, and those not in use in summer can be taken apart and stored under cover till fall. Formerly I had all my sashes in two long frames attached to permanent posts in the ground, but such was the waste of room and the difficulty of crop rotation that I devised the small frames and would not return to the long fixed frames. When the frames and sashes are made of heart cypress they are good for many years. My first three sash frame was made in 1905, and it and the sashes made for it are still in use, the only single glazed sashes I use.

Lettuce is, of course, the main frame crop here, and is grown in such a way that all the frames and sashes are released for the tomato and pepper plants in early spring, for at that time the lettuce and beets and cauliflowers grown during late winter, can be hardened off and turned out to head in the open ground.

I am growing in one frame this fall the All Heart, which seems very similar to the Hittinger. Writing this in December this frame promises to be headed for Christmas. The beets which will be sown in January are planted rather thinly but still will need thinning.—W. F. Massey.

THE 1918 SHORTAGE OF GARDEN SEED

The country will without doubt face a serious shortage of garden seeds before the next planting season is over. The stocks of seed now available are much below normal and certainly the demands next spring will be greater than during the past season when market gardeners, home gardeners and war gardeners made unprecedented demands, leaving practically no surplus stock to be carried over for the 1918 season. Supplies for new seed from abroad have been greatly reduced or cut off entirely because of the war. The bulk of such seeds as of beets, cauliflower, brussels sprouts, celery, spinach and radishes were formerly secured from the nations of Europe now at war. These seeds have been grown in this country during the past year or two with varying degrees of success, but unfavorable conditions in many of our seed growing sections caused partial crop failures. Commercial seed growing, it should be remembered, is a specialized art depending upon peculiar climatic conditions and the careful supervision of trained growers. The present world upheaval is therefore very seriously disturbing the seed supply of the United States.

Many people will be without seed for their gardens next year unless every one exercises strict economy and this may not suffice. It is very important that all seeds left over from last year be carefully conserved for next year. Most all seeds of vegetables are good until two to five years old, except parsnip and onion seeds, provided they are kept in a cool, dry place. Before planting such left-over seeds, a small sample should be tested to determine the percentage of germination.

Everyone should order seeds economically. Extravagant purchasing will rob others of a supply and thus reduce the food supply of the nation. By reference to a reliable planting table giving quantities of seed required for a given area or length of row, it is easy for an amateur to estimate quite accurately his needs.

Market gardeners who wish to insure a supply of seed in large quantities should not wait for the arrival of catalogues, but place their orders at once with their seedmen. The seeds that will be especially short in supply are beans, peas, beets, radishes and spinach. The prices of seed for the coming year will be double those of former years. The five-cent packets of last year will undoubtedly sell for ten. Therefore, Mr. Gardener, if you are wise you will order your seeds early, and if you are anxious to do your "bit", you will order no more than you actually need.—J. R. Bechtel.

We have Meatless Days and Wheatless Days

How About Bagless Days?

One of the most important elements of a fertilizer is the burlap bag that carries it. Under normal conditions it was possible for all manufacturers to furnish a part of their goods in 100-lb., 125-lb. and 167-lb. bags as well as the 200-lb. size; but now in addition to all the former uses the war is taking millions of burlap bags to be filled with earth for trench fortifications.

The burlap supply at best was never too large, but this war development makes it even less than normal; and "bagless days" are in sight if something is not done to meet the situation.

It is estimated that the use of 200-lb. bags in place of the 100-lb. size on fertilizers, will conserve twenty-four million yards of burlap. For that reason we are asking our customers to take their goods in 200-lb. bags. In this way the limited supply of burlap can be made to go further. The U. S. Department of Agriculture is fully cognizant of the burlap situation.

When our local agent puts the bag question up to you, we hope you will realize the seriousness of the situation. The men in the trenches must have their burlap bags. Will you help them by lifting a heavier bag?

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Poultry

THE INDIAN RUNNER DUCK

This is pre-eminently the "Leghorn" of the duck family, laying more eggs in a year than any other breed, active and foraging largely for itself if given free range, nervous, and while tame to a certain degree, it will willingly allow you to get only so close.

The Indian Runner is practically the only duck which will lay every month in the year if given reasonable care. Records of 240 or even sometimes as high as 300 eggs in a year have been reported; but this is in small flocks given all possible care. In large flocks under average conditions not more than 190 or 200 eggs can be reckoned upon. But even with this yield, the profit is apparent.

There are three different kinds of Indian Runners, the English penciled, fawn and white, and pure white. The fawn and white are the most common, tho not the most beautiful. In the penciled variety there are delicate markings which cannot fail to attract admiration. Those favoring the pure white claim that for the fancier it is the fowl, both eggs and plumage being more generally true in color. But as a rule poultrymen are agreed that there is little difference in the relative value of the three kinds; it is merely a question of personal taste in color.

The Runners will thrive without water in which to swim, but drinking water must be provided for them at all times. The dish should be deep enough to allow the immersion of the entire bill, as otherwise the apertures for breathing will become clogged. This rule holds for ducks of all sizes, little and big.

As a rule ducklings should not be allowed to swim until well feathered out. When the down is allowed to become wet it chills them and is very likely to induce cramp. We have, however, sometimes allowed them to bathe in a tub of slightly warm water before this; but care was always taken to see that the water has the chill entirely removed and that the day is so warm that they will be in no danger of chill after the bath. This is a good way to rid them of lice. And ducks will sometimes acquire these pests in spite of popular opinion to the contrary, tho the number of kinds which trouble them is less than that attacking chicks. But the remedy above suggested must be applied with care and watchfulness.

Tho the adult birds will thrive without the swimming pool it is duck nature to want it, as is attested by the eagerness with which they hunt out the water holes after a rain. More, it is stated that the eggs are more fertile when this privilege is accorded. Water for swimming is not strictly an essential; and no one without a pond or stream need think for a minute that they are debarred from this profitable branch of the poultry business.

Incubator ducks require a little less heat than for chicks, and a duck that has been overheated during the hatching process is never robust, even if it does succeed in living.

After they are two or three weeks old they will do nicely in warm weather without artificial heat. A cheesebox makes a very convenient brooder. Cut a hole in one side large enough for them to go in and out, and cover the box with burlap.

Ducklings must not be left out in the rain. It is sure to be fatal.

They require soft feed in the early stages of growth, with water always at hand during feeding time. Three parts wheat bran, one part oat meal, one part corn meal and not more than five percent beef scraps is a good combination, moistened a little. Put sand or gravel in the drinking water. This is better than the food, as they will then take only what nature demands.—Bessie L. Putnam.

BEGIN WITH ONE BREED

A mistake often made by a beginner in poultry is to keep more than one breed. All breeds are good, but if a person wishes to breed to standard requirements, or for egg production, there are certain things to be learned about each breed that will not apply to other breeds.

GOOD HOUSES WELL YARDED

The writer knows a person who started with a pen of Leghorns and a pen of Plymouth Rocks. Both flocks were handled the same way. Both flocks were given all they would consume of the same kind of food. The result was, the Leghorns laid fairly well, and the Plymouth Rocks just sat around and put on fat. This person came to the conclusion that Plymouth Rocks are worthless as egg-producers, when the fact of the matter was, he fed them a too fattening ration, without giving them the means to exercise properly. A point to be remembered is that hens of the Leghorn class can stand a ration much richer in carbohydrates or fat-producing foods than the larger breeds, because they are more active.

Thousands of persons, and more especially, farmers, still hold to the idea that crossing the different breeds will result in a fowl that will lay better. The result is usually disappointing. Each breed has points of excellence that are bred out in a measure, at least, by cross-breeding.

The beginner in poultry should select the breed that he thinks will suit his purpose, and stick to that breed until he is satisfied that some other breed will give him better results.—T. Z. Richey.

NEW JERSEY POULTRY SHOW

The poultry department of the New Jersey Agricultural Experiment Station is making extensive arrangements for the annual meeting of the State Poultry Association at Trenton during "Agricultural Week," January 23, 24 and 25, 1918. Other agricultural organizations of the state will hold similar meetings during "Agricultural Week," which is conducted by the State Department of Agriculture. There will be three features of the poultry meeting: (1) a lecture program; (2) the annual state poultry show, and (3) an educational exhibit. Some of the highest authorities of the time on poultry have been obtained for the lecture program. The annual show will include an exhibit of all standard breeds of poultry, an exhibit of utility breeds, for meat and egg production and an egg exhibit. There are a large number of classes, and poultrymen are urged to make a good number of entries. Awards will be made for the first, second and third places in each class. The educational exhibit will be staged by the poultry department of the Experiment Station and will contain many new and interesting features.

FALL NOTES

The fall season is the natural time for culling in the poultry flock. Surplus cockerels that will not be needed for next spring's breeding work should be marketed at once before they shall have passed the broiler stage. Such birds if held will consume feed and become a source of unwarranted expense during the dormant season.

Before placing the birds in the laying quarters due preparation should be made. A good coat of whitewash will improve the appearance of the house and will tend to offset any disease germs that may be lurking in some dark crevice. It is recommended that about three quarts of kerosene oil be placed in fifteen quarts of the wash for the purpose of combating red mites.

The best way to clean the incubator after a hatch is to empty the moisture pan, if any, and then brush all dirt out on the floor of the cellar from which it can be swept with ease. If the entire interior of the machine is sprayed sufficiently to dampen things before cleaning, the fuzz will not fly about and all disagreeable odors will be overcome.—J. R. K.

The majority of poultrymen have found from experience that an incubator moisture pan filled with water is just as effective as the one filled with sand and water and is not nearly as much trouble to tend. A couple of small bricks of charcoal, three or four inches square, placed in the moisture pan will keep the water from becoming stagnated.—J.

Live Stock

FARM RECORDS SHOW COST OF PORK PRODUCTION

Since the pork production campaign began various opinions have been expressed concerning the cost of pork production. Most men seem somewhat hazy on the question. They know in a general way whether or not they can produce pork profitably when corn and hogs are at given prices, but very few can give definite figures. Very few know the cost of production, because they do not keep records. The information called for by the following questions is necessary to the intelligent conduct of pork production business. The answers in this case were supplied by a Missouri farmer who kept records during 1916.

1. How many pounds of pork can you produce from a bushel of corn? "In 1916 I produced 15,054 pounds of pork, using corn at the rate of 6.4 bushels per 100 pounds of pork. I produced 15.65 pounds of pork per bushel of corn fed."

2. What does it cost to produce 100 pounds of pork? "In 1916 it cost me $8.09 per 100 pounds of pork; $7 for feed and $1.09 for other expenses."

3. How many pounds of tankage, if any, do you feed per bushel of corn? "In 1916 I fed 3.7 pounds of tankage with each bushel of corn."

4. What average price do you get for 100 pounds of pork and what price per bushel do you get for the corn fed hogs? "In 1916 my hogs were marketed at an average price of $9.72 per 100 pounds. I received $1.11 per bushel for corn fed to hogs. Had I sold the corn I would have received 85 cents per bushel. Had I received the following market prices, as many farmers did, I would have received the following price per bushel for corn fed to hogs: At $10 per 100 for pork I would have had $1.14 per bushel for corn; at $10.69 per 100 for pork I would have had $1.25 per bushel for corn; at 11.20 per 100 for pork I would have had $1.33 per bushel of corn."

5. Do you believe the use of hog pasture crops would cheapen your cost of pork production? This question has been answered by one group of 30 farmers who kept records of their business during 1916 in co-operation with the office of Farm Management Demonstrations, U. S. Department of Agriculture. The average cost of production per 100 pounds pork was $7.05; 6.7 bushels of corn were required to produce 100 pounds of pork; the farmers received $1.33 per bushel for corn fed to hogs; and their margin of profit was $3.64 per 100 pounds of pork. The average market price for hogs was $10.69.

The average of seven farm records making most expensive gains follows: On these farms the only available pasture was bluegrass and timothy, which seems to account for higher cost of producing pork. In this case the production cost per 100 pounds was $9.38; 8.2 bushels of corn were required to produce 100 pounds of pork; corn was sold in the form of pork at $1.03 per bushel; and the margin of profit was $1.82 per 100 pounds of pork. The average market price for hogs was $11.20.

The average of seven farm records making cheapest gains follows: On these farms alfalfa, clover or rape pasture was used and seems to account for the low cost of production. In this case the production cost of 100 pounds pork was $5.20; 5.2 bushels of corn were required to produce 100 pounds of pork; corn was sold in the form of pork at $1.66 per bushel; and the margin of profit was $4 per 100 pounds of pork. The average market price for hogs was $10.

The foregoing figures do not represent the average cost of producing pork and, therefore, have no particular bearing upon the hog market discussion, as the costs shown are exceptionally low and the risk of death losses from cholera and other causes have not been considered therein. These figures merely bring to the surface the value of keeping records and of using them as a guide in shaping one's business toward increased profits.

REDUCING LOSSES FROM HOG CHOLERA

Altho hog cholera can not be completely eradicated from the country under present conditions, losses from the disease can be materially reduced by education and organization of hog raisers in the application of proper sanitary measures and the proper treatment of hogs with anti-hog-cholera serum. This has been shown by the results obtained by the Bureau of Animal Industry of the U. S. Department of Agriculture, in experimental work in hog-cholera control carried on in a number of counties during the past four years. The work and its results are described in Department Bulletin 584,

Hog Raising Thrives Under Control

One of the important results, according to the bulletin, is the fact that the work, while effective in reducing the disease, was not repressive while in progress on the hog-raising industry. On the contrary, the industry thrived in the experimental counties to a greater degree than in adjacent counties in which no control work was under way.

Actual statistics were taken in the experimental counties and careful estimates were made in the adjacent counties. These show that in one group of three counties where the control work has been under way four years, the percentage of loss from hog cholera has remained constantly from one-quarter to two-fifths the percentage of loss in the 15 surrounding counties. In another group of experimental counties the average percentage of loss as compared with that in 18 surrounding counties was reduced from approximately nine-tenths in 1913 to less than one-third in 1914 and to about one-sixteenth in 1915.

Community Needs in Combating Cholera

Specialists who have supervised the control work of the department reach the conclusion that while the eradication of hog cholera can not be expected for a considerable time, the material reduction by the use of serum of the enormous losses which annually are caused by the disease, is entirely practicable. The essentials for success in combating the disease, they point out, are interest on the part of hog raisers and knowledge of the disease; organization which will facilitate exchange of information as to outbreaks, and secure assistance; serum at reasonable prices and easy of access; and the available service in the community of persons skilled in administering serum.

Sale of Bed Furnishings
Each January this Store has a great Sale of Bed Furnishings at which time thousands of people buy a season's supply. This year we have planned to make it bigger and better than ever because it is our "GOLDEN YEAR"—we will celebrate the 50th Anniversary of the business.
Each of These Items is a Special Value
Sheets, Blankets and Bed Furnishings of all kinds have increased in cost very much, and will, undoubtedly, go higher—you will save money by laying in a liberal supply. We pay the parcel post charges (none sent C. O. D.) and accept your order with the understanding that if you are not satisfied with your purchase, it can be returned AT ONCE and your money will be refunded in full. These goods will be sold at the prices quoted only while the lots last, and many of them will be sold very quickly. Order at once.
Sheets, Pillow Cases, Bolster Cases
Lot P-1
The Sheets, Pillow Cases, and Bolster Cases in this lot are made from bleached muslin of standard quality and in the most wanted sizes:
A-100—Pillow Cases, 42 x 36 inches, special at 28c each.
A-101—Pillow Cases, 45 x 36 inches, special at 31c each.
A-102—Pillow Cases, 45 x 38½ inches, special at 37½c each.
A-103—Bolster Cases, 45 x 72 inches, special at 60c each.
A-104—Sheets, 63 x 90 inches, special at 95c each.
A-105—Sheets, 81 x 90 inches, special at $1.08 each.
A-106—Sheets, 76 x 90 inches, heavy bleached muslin, center seam, special at 85c each.
The following are carefully made from bleached sheeting of superior quality:
A-107—Pillow Cases, 42 x 38½ inches, 40c each.
A-108—Pillow Cases, 45 x 38½ inches, 45c each.
A-109—Pillow Cases, 50 x 38½ inches, 50c each.
A-110—Bolster Cases, 42 x 76½ inches, 75c each.
A-111—Bolster Cases, 45 x 76½ inches, 80c each.
A-112—Sheets, 63 x 90 inches, $1.15 each.
A-113—Sheets, 81 x 90 inches, $1.35 each.
A-114—Sheets, 72 x 99 inches, $1.50 each.
A-115—Sheets, 81 x 99 inches, $1.65 each.
A-116—Sheets, 90 x 99 inches, $1.75 each.
Bleached Muslin Sheets of fine quality, hand-drawn, hemstitched:
A-117—63 x 99 inches, special at $1.50 each.
A-118—72 x 99 inches, special at $1.65 each.
A-119—81 x 99 inches, special at $1.75 each.
Bleached Muslin Pillow Cases with embroidered initial, hand-drawn, hemstitched:
A-120—Size 45 x 36 inches, special at 50c each. Make first and second choice of initials.
Lot P-2
Bedspreads
Two thousand White Bedspreads specially priced for the January Sale:
A-121—Crochet Bedspreads, 76 x 86 inches, $1.65 each.
A-122—Crochet Bedspreads, 80 x 90 inches, $2.00 each.
A-123—Satin-finish White Marseilles Spreads, 78 x 88 inches, $3.25 each.
A-124—Satin-finish White Marseilles Spreads, 80 x 90 inches, $4.00 each.
A-126—Embroidered Scalloped-edge Bedspreads with corners cut for large size metal bedsteads, $4.00 each.
A-127—Satin-finish White Marseilles Bed Sets, including Spread and Shams to match, finished with embroidered, scalloped edge, $6.00 each.
A-128—White Crinkled Dimity Bedspreads, 72 x 90 inches, $1.85 each.
A-129—White Crinkled Dimity Bedspreads, 80 x 90 inches, $2.00 each.
Lot PF-3
Sheeting and Pillow Casing By the Yard
A-130—Pillow Casing, 42 inches, 28c a yard.
A-131—Pillow Casing, 45 inches, 31c a yard.
A-132—Sheeting, 63 inches, 45c a yard.
A-133—Sheeting, 72 inches, 50c a yard.
A-134—Sheeting, 81 inches, 55c a yard.
A-135—Sheeting, 90 inches, 60c a yard.
Extra Special
A-136—4,000 yards of heavy, Round-thread, Bleached Muslin Sheeting, 81 inches wide, 48c a yard.
Lot P-4
Comfortables
A-137—Cotton-filled Comfortables, size about 6 x 6 feet, covered with silkoline in Persian designs, special at $2.50 each.
A-138—Cotton-filled Comfortables with silkoline covers in various dainty color combinations, size about 6 x 6 feet, special at $3.75 each.
A-139—Scroll-stitched Wool-filled Comfortables, figured satine coverings with solid-color satine borders, size about 6 x 6 feet, at $7.50 each.
A-140—Wool-filled Comfortables, figured silk top with solid-color mull borders; solid-color mull back; size about 6 x 6 feet, at $10.00 each.
Lot P-5
Blankets
Four excellent grades of White Blankets, wool, with just enough cotton mixture to make them warmer and wear well: dainty border colorings: desirable in every way and very durable:
A-141—66 x 80 inches, special at $4.75 a pair.
A-142—72 x 84 inches, special at $6.50 a pair.
A-143—70 x 80 inches, special at $7.50 a pair.
A-144—76 x 84 inches, special at $8.50 a pair.
Army Blankets, very popular for camping and outdoor sleeping:
A-145—54 x 78 inches, silver grey, $6.50 each.
A-146—62 x 82 inches, olive drab, $10.00 each.
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Farm Products Prices and Prospects

REPORT OF COMMISSION ON COST OF PRODUCING HOGS

A commission of seven men was appointed by Food Administrator Hoover to investigate the cost of producing hogs, and to advise as to what should be done to stimulate production. The commission endeavored to arrive at a proportionate price based upon the price of a bushel of corn. The following is extracted from the report.

"There is a marked feeling of uncertainty evident on the part of the producer. This is manifest in the large number of unfinished hogs now going to market. There is a big tendency to market potential breeding stock—breeding stock that is essential to further increase. The feeling of unrest and uncertainty on the part of the producer is greatly accentuated by the recent marked drop in price of live hogs. First and above all, confidence should be instilled so that producers will feel that when their hogs are finished for market, they will sell at a fair price—at least sufficient to cover actual cost of production at a fair profit.

Corn Ratio to Hog Feeding

"The Commission finds that the approximate, equivalent value of twelve bushels of No. 2 corn is necessary to produce 100 pounds of average live hog under average farm conditions.

"While hog production for the ten years ending 1916 has been maintained on a ratio of 11.67 bushels of corn to 100 pounds of hog, we believe, when all the losses are taken into account, that it is doubtful whether there has been a profit on the business with this ratio on the average.

"The normal number of hogs in the United States is approximately 65,000,000 as contrasted with the present supply of not more than 60,000,000. To bring swine production back to normal, the Commission believes that it will require a stimulative market which will pay at least the equivalent value of 13.3 bushels of corn for 100 pounds of average hog.

"We further believe that the equivalent value of at least 14.3 bushels of corn must be paid for 100 pounds of average hog in order that production may be stimulated 15 percent above the normal.

Minimum Price for Immediate Future

"The best emergency method of stabilizing the market and preventing the premature marketing of light, unfinished pigs and breeding stock, we firmly believe, is to establish immediately a minimum emergency price for good to select butcher hogs of $16 per hundred pounds on the Chicago market. For the purpose of immediately stimulating production of swine for the next year, we recommend that a ratio be immediately established and announced at once, same to go into effect February 1, 1918. Steps should also be taken to prevent, as far as possible, any large or sudden change in prices when they go from the minimum basis to the ratio basis. This minimum price should also apply to other markets and to other classes of market hogs with the usual or normal differentials.

"We recommend that the question of price range between the various market classes and grades of hogs should be determined by a suitable committee of representative packers, live stock commission men, and representatives of this Commission, the same to be appointed by Mr. Hoover.

"A correct price for hogs cannot be determined by using the basic corn value of the month in which this hog is marketed. This method is economically unsound and unjust because the feed which is chargeable to this hog was consumed during the previous months.

"To establish the market value of 100 pounds of average hog, in terms of corn, a weighted average of the corn consumed by the hog or its antecedents during the period of 12 months previous to marketing must be taken into consideration. The determined approximate percentage of corn consumed for the period of 12 months of the market hog and its mother, is distributed approximately as follows:

Chicago Basic Market for Prices

"Chicago is a basic market for corn and hogs. Therefore, we recommend that Chicago be used as the basis in any price stabilization and that adjustments of differentials, which may be found necessary in order to prevent any injustice against any section or market, be made by the Food Administration.

"The present ratio, figured on a weighted average for late October, 1917, shows that on the basis of Chicago No. 2 corn and Chicago average hogs, that 100 pounds of average hog is selling for the low value of practically 8.8 bushels of corn; and at this time 100 pounds of average hog is selling for the equivalent value of only 7.4 bushels of corn. It is easy to see and fully comprehend why there has been a marked decrease in production and why thousands of light, immature and unfinished hogs have been or are being rushed to market.

"In the periods of heavy loss, the future production of the industry is threatened. Swine men cannot persistently stay in a losing game even tho they are intensely patriotic. They have taxes to pay and mouths to feed, and cannot be, financially speaking, good citizens in this terrible and costly war if they are engaged in a losing business."

HOG MARKET STRONG IN APRIL AND SEPTEMBER

A study of the market prices of fat hogs for a period of ten years shows that the market varies from "highs" to "lows" during certain months in the year. Highest prices usually obtain during the months of April and September. The intervening months show lower prices, June and December representing the extremely low months.

The price drops in late fall and early winter because the spring farrowed pigs which are finished on the fall corn crop are ready to market at this period. After this period the price rises, reaching the highest point about April, due to the fact that there are few fat hogs to market at that season.

Following this time pigs farrowed the previous fall begin to arrive, the run being heaviest about June, reacting in a corresponding low market price. The price is generally highest in late August or September since both pigs and feed are scarce at that time.

HOW ONE MAN USES FARM ACCOUNTS

The story of a Missouri farmer who has been keeping farm accounts for several years in cooperation with Missouri College of Agriculture, gives an interesting indication of the value of farm accounts. For several years this farmer has been raising beef cattle and fattening them out on a farm of about 160 acres. He selected that enterprise as a main part of his business largely because he liked it. However, soon after starting, he decided that since he was a young farmer and had to make his way, he was going to apply the "acid test". He began keeping strict account of his whole farm business, paying particular attention to his cattle business.

His record on cattle for 1915 is quite typical of what his records showed for the last several years. He found the average cost of keeping his breeding cows to be $22.62 per head per year. The cost of the calves for the first six months was $3.96, and for the second six months $7.58, making a total of $11.54 for the year. The calves were spring calves. Their cost of $11.54 a head added to the cost of keeping the cow, $22.62, made a total cost of $34.16 for a year-old calf. Sixteen steers raised at this average price and therefore worth $546.56 total, were carried as stock cattle on pasture for five months and then fed 107 days on corn, alfalfa, hay, silage and oil meal. The total cost of the 16 steers for the eight months and a half was $1,136.59, or about $71 a head. The steers sold at the end of the feeding period for $1,130.50, and weighed 16,150 pounds. Included in the cost was the interest on $546.56 at five percent for eight months and a half, 238 hours of man labor at 14 cents an hour and 52 hours of horse labor at 8 cents an hour. As this farmer did his own work and did not actually pay out the interest, he had this money left. He also had left the money charged for pasture as he used his own pasture, but the pasture charge made represented about $3 an acre rent on the land, or about what would have been paid in cash rent for such land at that time.

The figures quoted are not the average of a number of farms and as they represent only one instance, prove nothing about the profitableness or unprofitableness of such an enterprise in general. They do show that farm accounts are of vital interest to every farmer in sizing up his own particular business problems. Every progressive farmer is interested in proof of what can be done and what ought to be done, but the first step in reform is to get the facts about what he is doing. The farmer referred to in this article has made some radical changes on the basis of his own findings. He is keeping equally close account of the changes, and the next few years' records will be of interest in showing the value of these changes. In the future, both producer and consumer must know more about the facts of production.

SELLING POTATOES ON HUNDREDWEIGHT BASIS

The Bureau of Markets of the United States Department of Agriculture and the Division of Perishables of the United States Food Administration officially endorse the movement to conduct all transactions on northern potatoes hereafter on the basis of the hundredweight instead of in miscellaneous units, such as bushels, barrels and sacks.

More than 50 of the largest dealers in the United States in conference at Washington unanimously endorsed the efforts to have all potato transactions conducted on the hundredweight basis hereafter.

The transaction of potato sales on a hundredweight basis over the entire United States will eliminate confusion and give an intelligent basis for comparison between all markets.

The co-operation of all interested in making this reform is requested. The following table, based on 60 pounds to the bushel, furnishes a ready means for transferring the price per bushel into the price per hundredweight.

Price Bu.	Price Cwt.	Price Bu.	Price Cwt.
$ .45	$ .75	$1.56	$2.60
.48	.80	1.59	2.65
.51	.85	1.62	2.70
.54	.90	1.65	2.75
.57	.95	1.68	2.80
.60	1.00	1.71	2.85
.63	1.05	1.74	2.90
.66	1.10	1.77	2.95
.69	1.15	1.80	3.00
.72	1.20	1.83	3.05
.75	1.25	1.86	3.10
.78	1.30	1.89	3.15
.81	1.35	1.92	3.20
.84	1.40	1.95	3.25
.87	1.45	1.98	3.30
.90	1.50	2.01	3.35
.93	1.55	2.04	3.40
.96	1.60	2.07	3.45
.99	1.65	2.10	3.50
1.02	1.70	2.13	3.55
1.05	1.75	2.16	3.60
1.08	1.80	2.19	3.65
1.11	1.85	2.22	3.70
1.14	1.90	2.25	3.75
1.17	1.95	2.28	3.80
1.20	2.00	2.31	3.85
1.23	2.05	2.34	3.90
1.26	2.10	2.37	3.95

Grange

MARYLAND STATE GRANGE MEETING

The 45th annual meeting of the Maryland State Grange was held in Bel Air, Harford County, December 10-13, 1917. Owing to the extremely cold weather, Monday's attendance was small, but by Tuesday, fully 800 people attended the sessions.

The opening session was opened by the address of welcome by Senator-elect J. Royston Stifler, and the response by State Master B. John Black. State Lecturer Reuben Brigham followed with "What the Farmer Can Do Today." Tuesday was taken up by reports of committees and officers, followed by an address by Miss V. M. Kellar, State Home Demonstration Agent; subject: "The Grange and Home Demonstration Work." Dr. A. T. Woods, president of the Maryland State College, spoke on "Maryland's Agricultural Program." He made known the budget to be presented at the coming session of the Legislature asking for an appropriation of $1,000,000 for the needs of the Agricultural College.

Congressman George M. Young, of North Dakota, then gave an address on "What the Farmers of the North West Are Doing." He spoke chiefly on the activities of the Non-Partisan League and what they had accomplished in the way of getting a proper grading for their wheat.

The evening session was taken up by confirming the fifth degree by the Harford County Pomona degree team on a class of 30. On Wednesday the following officers were elected for a term of two years: Master, B. John Black; Overseer, W. H. Day; Lecturer, D. G. Harry; Secretary, Mrs. A. V. Crew.

Wednesday evening the sixth degree was given to a class of 117 by the State Grange team.

The final session of the successful meeting was held Thursday morning.—D. G. Harry.

Among the Granges

Washington County, Pa.—Pomona Grange No. 16 held its winter session in Washington, Pa., December 4, 1917. In the address of welcome by Rev. C. L. McKee, and the response by Rev. J. P. Stoops, after fitting words for the occasion, both spoke briefly and earnestly of the conditions of our country in thees times of war and of the great need of conservation and organization.

A business session was held and reports were given from the treasurer and secretary and from the various subordinate granges of the county. The majority are doing good work, but some need reviving.

Nicholas Schmitz, of the State Department of Agriculture spoke on "Cereals." Geo. M. Rea, chief apiarist of the department, gave a lecture on "Bee Culture and Its Profits."

In the evening Miss Elsie Noble, of State College, gave an address on "Domestic Science." Each session was enlivened by songs, music and readings. A very fine "Farm Products Show" was held in connection with and following the Pomona meeting. The fruit exhibit was good; also potatoes and other vegetables, butter, pastry, etc.; a splendid showing of poultry, some 500 birds. W. Theo. Wittman, of Allentown, judged the poultry and he stated that it was the best show he had attended this year.

Miss Noble, instructor in home economies extension, had an interesting exhibit, showing the different amounts of food required to make 100 calories of food, and also menu combinations suitable for children and for the average man, also samples of war bread.

Geo. M. Rea had an exhibit of apiary equipments and was ready to answer any questions about bee culture.—Mrs. W. Craig Lee.

Tioga County, Pa. — Pomona Grange No. 30 held its December meeting in Pomona Hall, Wellsboro, Pa., at 1.30 P. M., Dec. 6, Worthy Master John J. Campbell presiding. After all had joined in singing the "Star Spangled Banner," the address of welcome was given by Milton Spencer, Master of Wellsboro Grange, the youngest Master in the county, if not in the state. Thirty-five of the 40 granges made reports. The present system of deputy work is not satisfactory in the county, as few visits and very little assistance have ben given our granges and we have several that stand in great need of deputy work.

"Fraternity," by B. S. Haven, of Ulalia Grange, was the next address, followed by a recitation by Floy Austin. Lillian Ashley gave two recitations.

At the evening session, a class of 18 was instructed in the work of the fifth degree. E. J. Perry, farm bureau agent, outlined the boys' club work for the coming year. The Charleston Male Quartet gave several pleasing selections Rev. Sheriff occupied the balance of the evening with a talk on different periods in boy life, illustrated by pictures.

Albert Manning, overseer of York state granges and general secretary of the Dairymen's League, occupied the most of the afternoon session. He outlined the relation of the League as a branch of the grange. The League originated in the Pomona Grange, of Orange County, N. Y., and that for several years, to give the League needed assistance, three officers of the New York State Grange were made directors of the League. Now the League is self-sustaining, with 52,000 members and a surplus of $10,700. The session had the largest attendance ever in the history of Tioga County Pomona. During the afternoon Helen Bailey, Mildred Rogers and Maud Close gave pleasing recitations.

Resolutions calling on the government to prohibit the manufacture of luxuries so that labor may be diverted to necessary work was passed. Also one asking the suppression of all gambling devices at our agriculture fairs, and one pledging the support of the granges of Tioga County to the Dairymen's League. A resolution demanding total prohibition, both national and state, and calling on our legislatorrs for such laws, was passed.

The next meeting will be held in Pomona Hall, Wellsboro, Pa., in March.—J. K. C.

Center Co., Pa.—Pomona Grange held its biennial session in Grange Arcadia, Centre Hall. The session was one of unusual interest and brought together members of the organization from many parts of the county. The great majority of the members present were representives of other granges than Progress in whose hall the meeting was held.

The morning session was opened in due form by the Master, Prof. C. R. Neff, who filled the few vacant official chairs by appointment.

The first business brought before the body was the report of the Grange Encampment and Fair, by the secretary of the committee, Miss Florence Rhone. The report was general in character, and indicated the September, 1917, gathering to have been the most successful in all its line of any held in some years. The financial report of the treasurer was no less flattering than that of the secretary, and shows the fair association to be able to almost wipe out its indebtedness caused by the large expenditure of funds for wiring the grounds and buildings for lighting by electricity. The future prospects for this enterprise of the county grange is exceedingly bright, and nothing will be left undone to make future gatherings eclipse any of the past.

The death of Hon. Leonard Rhone, who was chairman of the Grange Encampment and Fair committee and the general manager of the enterprise since its organization 44 years ago, necessitated the election of a new committeeman. When the question was opened it was decided to increase the committee from five to seven members, and this was done by electing Miss Florence Rhone and David H. Keller, of Progress Grange, and Prof. R. L. Watts, of Penn State Grange, Dean of the Agricultural Department of Penn State, all of whom have been members of the organization for a number of years.

Rev. Josiah Still conducted the memorial exercises respecting Brother Rhone, deceased. Testimonials of respect were given by many of the members.

R. H. Olmstead, County Farm Agent, reported the crop return in the county as about 75 percent, and a normal, or slightly above, average crop sown.—S. W. Smith.

Upper Bucks, Pa.—Pomona No. 50 met in Franklin Grange Hall at Springtown, on Saturday, Nov. 17. The day was very fine and there was a large attendance. The Worthy Master, Henry M. Landis, of Quakertown, presided. Seven new members were admitted; also the new officers for the coming two years were nominated, before the noon hour. At the afternoon session the new officers were elected.

Some remarks were made by Brother and Sister Rex, visitors from Montgomery County Pomona. It was decided it would be a good idea to send some of our members to visit other Pomona meetings, hoping that they might bring back something that we might use. Wm. Shipe, of Chalfont, was appointed to visit Montgomery County Pomona, and Wm. Weimmer, of Springtown, to visit Lehigh County Pomona. A very good paper was then read read by Mrs. Wm. Swartley on "Domestic Science In Our Public Schools." Wm. Shipe read an article entitled, "Who Are Our Rulers?" Mrs. Martin gave a reading entitled, "The Farm Mortgage." As the hour was growing late it was decided to carry the rest of the program over until the next meeting which will be at Richland Grange Hall, near Quakertown, the third Saturday in February, 1918; morning and afternoon sessions. The new officers will be installed and a large class initiated.—M. J.

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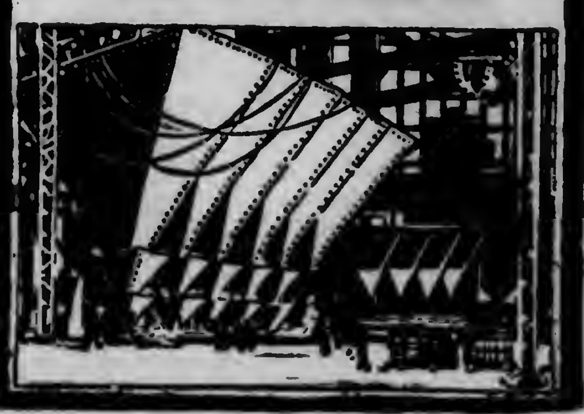

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Household

THE ECONOMICAL APRON

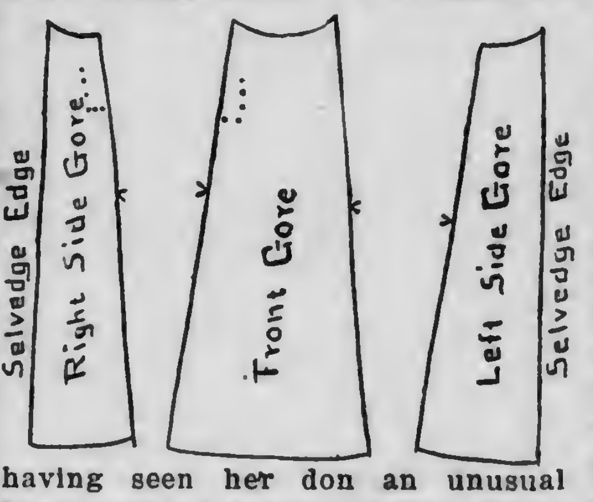
One blustry afternoon I decided to walk over to Molly Bunting's (my neighbor) who does a great deal of her own sewing. I found her busily engaged making aprons, not one, but six of them. Molly said, in answer to my comment on her wholesale job, "Yes, it does not require any more time to make six immediately these winter days than to squeeze one in now and then in the summer time when duties are piled so high you hardly know which to perform first. It saves time getting things out and putting them back to cut them all at once."

Then she asked in a debating manner, "Did you see those aprons published in the Pennsylvania Farmer, last spring, also the question of the editor asking how you liked them?"

"Yes, I saw them," I answered slowly. Carefully eyeing her aprons, I continued, "But you are not making yours like any of those printed. Pray tell me why."

"Reasons enough! If I didn't have to be as economical with time as I have to be with gingham, I'd write and tell the editor I hate them all", said Molly meaningly.

Then I suddenly recalled that Molly Bunting "detests" a bib or loose fitting apron. I remembered having seen her don an unusual apron made in a peculiar way, which she explained thus:



"Betty (her sister) saw it in the Pennsylvania Farmer. The style just suited her, so she procured the pattern and presented it to me with this apron, whose bottom I admire for fitness, but the bib, as you notice, I turn under at the belt, thus concealing it, which is more pleasing to me", and she smiled as if she had won one over her sister in being able to banish an unnecessary appendage.

Molly continued: "If I were to lecture to a general assembly of women and particularly mothers, I'd advocate the bibless apron and more so bibless children. Why not practice to overcome careless in soiling our clothes, particularly above the waistline? If humanity is advancing, let us see more bibless children.

"Furthermore, I so seldom leave this dear old farm—understand I'm not grieving over that either, but I do so well like to feel dressed up like other folks who do less work, and to have more time than I can find. So I wear these short bibless aprons, my neat shirt waist, and am always presentable. When doing chores I wear a coat like a man's jumper, always removing it on my return to the house."

While Molly was completing the last of the six neat little aprons, I asked where she procured the pattern.

"Now don't think I'm old-fashioned and narrow in my ideas because I do not wear a big apron any more, nor won't", said this interesting little neighbor of mine. "Two yards and a quarter are plenty and the style is one of my own make-up taken from the bottom of the apron that Betty gave me. The front gore is cut like the front gore of a seven-gored skirt of the present style. The sides are gored, too, enough is taken from them to give me the strings, having cut my belt first crosswise. Then I double the remaining goods in half, cut and gore the front and sides to suit my taste."

Now won't you please request the Pennsylvania Farmer to publish some bibless aprons, economical of material, and some rather dressy aprons?—Mrs. Edith C. Larason, Hunterdon Co., N. J.

THE KNITTING MUFF

The knitting muff is an innovation in the accessories for women who are interested in Red Cross work. It allows one to carry the much needed muff for this season, and yet not be bothered with a knitting bag, which in cold weather is a comfort.

The muff is made of fur, velvet or other material that one would wish, but it is as wide as the needles are long. It is made any shape desired, but the side instead of being closed as other muffs are is left open and lined with a light colored cloth, and the knitting is slipped in the pocket, which is not connected with that for the hands.

The average opening for the hands is four to five inches, and the opening for the knitting pocket is fastened together with snaps, which prevents the knitting from slipping from the pocket and completely encloses the needles. It is quite fashionable to have knitting needles protruding from all sorts of pockets and bags, but with the cold weather upon us we welcome receptacles that will not be so difficult to manage. Small packages may also be carried in this pocket; if closed there is no danger of losing them. The gloves, purse, etc., can be slipped in, and be secure. There is little danger of losing the muff when it is slipped over the arm on a cord.

For lining the lower pocket for the work, it is not advisable to use silk, since it is likely to catch on the work, and would soon become spoiled; mixed cotton is best.—Esther Cosse, Passaic Co., N. J.

LYONNAISE BEETS

Cut into dice 2 cups boiled beets, mix in a double boiler 3 tablespoons vinegar, 1 tablespoon chopped parsley, 1 teaspoon butter, 1 teaspoon salt, and a dash of pepper. When hot add the beets, stir for a few minutes, and serve at once smoking hot, with mashed potatoes.—E. M. A.

CARROTS vs. PUMPKINS, ETC.

Did you ever wish for pumpkin pies when pumpkins failed to grow? We used to, till we learned that nice carrots make a most excellent substitute. Boil till very tender, mash fine, proceed exactly as if you were using a first-class, mealy pumpkin, and your family will never know that you didn't.

Boiled, sliced and fried brown in hot drippings, carrots are fully as nice as fried parsnips; and no vegetable blends more perfectly with a simple cream sauce than carrots boiled and diced.

Boiled and pickled in vinegar like beets, they make a most excellent combination to serve with either beets or cucumbers, and the three served together make an attractive addition to any dinner table.—Mrs. E. M. Anderson, Chautauqua Co., N. Y.

POSITIVELY THE BEST SANDWICHES

The best sandwiches that I ever ate were filled merely with boiled eggs, mashed fine and mixed with salad dressing and a small quantity of potted ham. We don't care particularly for sweet sandwiches, but a great variety of delicious ones may be made from the home garden products. Onions, endive and boiled potatoes, chopped fine and mixed with a good salad dressing make a delicate beans, mashed fine, are not to be deand savory "spread"; while baked spised.—Mrs. E. M. Anderson.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261-63 South Third Street, Philadelphia, Pa.

2244—Smart Shirt Waist.—Nice for flannel, crepe, linen, madras, satin or silk; also for batiste and dimity. Long sleeve may be finished in tailored, shirt style. Pattern is cut in seven sizes: 34, 36, 38, 40, 42, 44 and 46 inches, bust measure. Size 38 requires 2⅝ yards of 44-inch material. Price 10 cents.

2284—Neck Accessories.—No. 1 shows stylish stock with tie, good for linen, satin and silk. No. 2 and 3 are nice for lawn, batiste, crepe and lace. No. 4 is suitable for any material that goes to trim or finish a dress. Styles are cut in three sizes: Small, 12 inches; Medium, 14 inches, and Large, 16 inches neck measure. Size medium requires for No. 1, ⅝ yard of 36-inch material; for No. 2, ¾ yard of 27-inch material; for No. 3, ⅝ yard of 36-inch material; for No. 4, ⅞ yard of 36-inch material. Price 10 cents.

2264—House Coat for Men.—This model has fronts and collar cut in one. It is suitable for serge, cheviot, double faced mixtures, broad-cloth, drill and alpaca. The pattern is cut in 7 sizes: 32, 34, 36, 38, 40, 42 and 44 inches breast measure. Size 38 requires 3¼ yards of 36-inch material. Price, 10 cents.

2259—Suit For The Growing Boy.—The belt may be omitted or finished separately. The trowsers are straight at the lower edge and close at the center front. Pattern is cut in 4 sizes: 4, 6, 8 and 10 years. Size 8 requires 3¼ yards of 44-inch material. Price, 10 cents.

The Voice of the People

This department is reserved for use of our readers to discuss problems and matters of general farm interest. Write your views and comments briefly on any question of social, economic or educational importance and thus share them with others. Such articles should not exceed 200 or 300 words. Publication of such articles does not signify editorial endorsement or agreement.

A PERSONAL MESSAGE

By J. T. Campbell, Crawford Co., Pa.

Dear Farm Folks.—I wish I could send you a little personal message without its going thru the editor's hands, for there are some things I would like to say to you that I fear his Highness will not permit me to say thru these columns.

I wish every reader could know the folks connected with the Pennsylvania Farmer as intimately as I know them. If you did I am sure you would appreciate this paper and the earnest, honest efforts to serve as otherwise you cannot do. I have often thought if there was some way to get the editors out of their sanctum—sanctorium, out among the working farmers and readers for a large part of their time, much good would be accomplished and a closer bond of sympathy brought about between the editorial office and the farm. The office needs to know more of the real heart problems of the farm and the readers would be profited by a more intimate knowledge of the thought and labor that goes into a great farm journal.

I have known the editors and publishers of Pennsylvania Farmer ever since they took over its publication. I have sat in their offices and consumed their valuable time discussing many agricultural questions. I have traveled with them and enjoyed the hospitality of their homes. And I have found them all big-hearted, kindly folks, who are making a mighty effort to advance the interests of agriculture. The publication of a great farm journal is a big job and involves questions of which the farmer readers have little conception. The present subscription price we pay scarcely pays for the ink and paper used in printing. And this ink and paper is only a small part of the cost of the publication. The larger part of the income of a periodical comes from the sale of advertising space. Hence the interest of both readers and advertisers have to be considered. Unscrupulous and swindling advertisers resort to many tricks in an effort to gain admission to the columns of reliable farm journals, and constant and thoro supervision is required on the part of publishers to avoid such fellows. The weekly reader knows little of the great effort required in this part of the work.

On the other hand, the editor has a measure of responsibility to his advertisers and cannot permit the publication of matter that may do injustice to honest advertisers. Sometimes I hear readers accuse the editors of publishing only one side of a question or withholding matter which, if published, would reflect unfavorably on a certain class of advertising. In most such cases, the publishers probably viewed the matter from the standpoint of the greatest good and we readers can surely afford to be charitable in our criticism. Directly and indirectly we get a lot of our best information thru the advertising columns; information that keeps us in close touch with agricultural progress.

Personally, I think I could give the publishers a lot of suggestions on how to run their paper. The fellow who has had no experience frequently knows more than a veteran until he has had the conceit taken out of him. I am sure if I made any such suggestions the publishers would find it impossible or impracticable to adopt them. I am sure most of us readers would appreciate the change if all advertising matter were grouped together in the back part of the paper; and probably if such change was attempted, the advertisers would kick like a bunch of steers.

An agricultural journal can be of greatest benefit to its readers only when it has the hearty support of its readers. Paying your subscription does not fully discharge your duty in this respect. There must be a bond of appreciation and sympathy go out from the reader to editors and publishers; that appreciation which constantly manifests itself in a good word to your neighbors and friends, and a kindly reference to your having read with interest the advertiser's notice when writing him. These are little matters to you, but they are great factors in aiding the publisher to serve you better. When you find something interesting in these columns, tell your neighbor about it and ask him if he has read it. Do this not once, but often, and erstwhile your neighbor who is not a reader will fall in line to mutual good of all.

Be friendly. Write once a month a letter to the editor and tell him what you like and what you don't like about his paper. Tell him plainly what you think about the questions which are being discussed. It will do him good and I am sure he will appreciate your letters. They will probably not be published and he may not always get time to write a personal reply. But, nevertheless, your letters will be appreciated and he will be the better able to serve you. Write and invite him out to dinner when the strawberries are ripe or in potato-digging time.

If there are children in your home, I think it will be well to have several good farm papers coming to your home every week. I have observed closely for many years and I am quite sure that the quiet, constant influence of the farm press is one of the greatest of all factors in interesting and attaching the children to the farm.

Let us all join in a hearty, earnest effort to help make Pennsylvania Farmer a great journal, representative of the agriculture of the great commonwealth of Pennsylvania. Sometime soon I am going to tell you about a few great and interesting books I have read. Then I hope some of you may want to read them.

A Liberty Bond furnishes the money to feed and clothe our soldiers, the farmer raises the food stuffs and the wool and cotton for clothing, blankets, and tents. He gets his money back first when he sells his product; then he gets it all back again with interest, when the loan is repaid. A Liberty Bond is a good purchase on the investment side alone; your patriotism makes it doubly worth having.

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112 S. 8th St., Phila., Pa.

ICE PLOWS and ICE TOOLS

Double Row Plows. Equal twenty men with saws. Catalogue free.

WILLIAM H. PRAY, LeGrangeville, New York

We Want to Start 100 New Agents

(men and women) this month, taking orders for trees & shrubbery for spring delivery and offer special inducements for quick action. Pay weekly. Write for outfit.

Perry Nursery Co., Rochester, N. Y

PIPE second hand. Large stock all sizes furnished with new threads & couplings. Prompt shipments. J. F. Griffith, 416 Moyer St., Phila.

Sabo Sure Catch Trap. Designed to be placed in the animal's burrow. Your hardware dealer has them. Write for booklet. Agents Wanted.

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3128 W. 25 St., Cleveland, Ohio

CHOICE DRESSED POULTRY in good demand. Good prices. Old reliable J. S. HALDERMAN & BRO., 2918-24 Market Street, Philadelphia, Pa.

ASK YOUR DEALER to show you the American Gentleman Bill Fold, the most popular Bill Fold ever devised for man's use. Compartments for bills, coin purse, cards, tickets, identification card, and stamps. If your dealer cannot supply you, send us 50 cents with your nearest dealer's name and we will mail you one prepaid, also descriptive matter of the complete Pan-American line of Leather Goods.

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75c at your dealer's, or by mail postpaid if he cannot supply you.

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PAY BEST BY EVERY TEST—WRITE—EUREKA CHEMICAL CO. BALTO., MD.

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Screw clamp, cast steel runners, high steel back with narrow heel strap. Size 9½ to 11½ inches. This is an ideal skate for girls. They are easily adjusted and the strap at the heel not only holds the skate snug but is a brace to the ankle. Sent prepaid for three yearly subscriptions to Pennsylvania Farmer at 75 cents each.

Pennsylvania Farmer, 261 S. Third St., Philadelphia, Pa.

NAN OF MUSIC MOUNTAIN

By FRANK H. SPEARMAN

SYNOPSIS OF PREVIOUS CHAPTERS

Henry de Spain is manager of the stage line running between Spanish Sinks and Sleepy Cat. The Morgan Gang, with headquarters at Morgan's Gap, make trouble for him at once, and in defending the property of the stage line, de Spain is brought into two desperate fights. After one of these his horse carries him to the foot of Music Mountain, where he is discovered and nursed back to life by Nan Morgan, niece of the Gang leader. De Spain falls in love with Nan, and believes that she loves him in return. After he recovers and escapes he rides back to the Gap and seeks an interview with her. She meets him, but tries to exact a promise that he will never come again and that she need never speak to him again.

Nan regarded the revolver de Spain held in his hand, and shuddered.

"You are a cold-blooded, brutal wretch—I'm sorry I ever helped you—I'm sorry I ever let you help me—I'm sorry I ever saw you!"

She sprang away before he could interpose a word. He stood stunned by the suddenness of her outburst, trying to listen and breathe at the same time. He heard the front door close, and stood waiting. But no further sound from the house greeted his ears.

"And I thought," he muttered to himself, "that might calm her down a little. I'm certainly in wrong, now."

Nan reached her room in a fever of excitement, angry at de Spain, bitterly angry at Gale, angry with the mountains, the world, and resentfully fighting the pillow on which she cried herself to sleep.

In the morning every nerve was on edge. When her Uncle Duke, with his chopping utterance, said something short to her at their very early breakfast he was surprised by an answer equally short. Her uncle retorted sharply. A second curt answer greeted his rebuff, and while he stared at her, Nan left the table and the room.

Duke, taking two of the men, started that morning for Sleepy Cat with a bunch of cattle. He rode a fractious horse, as he always did, and this time the horse, infuriated at his brutal treatment, bolted in a moment unguarded by his master, and flung Duke on his back in a strip of lava rocks.

The old man—in the mountains a man is called old after he passes forty—was heavy, and the fall a serious one. He picked himself up while the men were recovering his horse, knocked the horse over with a piece of jagged rock when the frightened beast was brought back, climbed into the saddle and rode all the way into town.

But when his business was done, Duke, too, was done. He could neither sit a horse nor sit in a wagon. Doctor Torpy, after an examination, told him he was booked for the hospital. A stream of profane protest made no difference with his adviser, and after many threats and hard words, to the hospital the hard-shelled mountaineer was taken. Sleepy Cat was stirred at the news, and that the man who had defied everybody in the mountains for 20 years should have been laid low and sent to the hospital by a mere bronco was the topic of many comments.

The men that had driven cattle with Duke, having been paid off, were now past getting home, and there were no telephones in the Gap. De Spain, who was at Calabasas, knew Nan would not be alarmed should her uncle not return that night. But early in the morning a messenger from McAlpin rode to her with a note telling her of the accident.

Whatever his vices, Duke had been a good protector to his dead brother's child. He had sent her to good schools and tried to revive in her, despite her untoward surroundings, the better traditions of the family as it had once flourished in Kentucky. Nan took the saddle for Sleepy Cat in haste and alarm. When she reached her uncle's bedside she understood how seriously he had been hurt, and the doctor's warnings were not needed to convince her he must have care.

Duke refused to let her leave him, in any case, and Nan relieved the nurse, and what was of equal moment, made herself custodian of the cash in hand before Duke's town companions could get hold of it. Occasional trips to the Gap were necessary as the weeks passed and her uncle could not be moved. These Nan feared as threatening an encounter either by accident, or on his part designed, with de Spain. But the impending encounter never took place. De Spain, attending closely to his own business, managed to keep accurate track of her whereabouts without getting in her way. She had come to Sleepy Cat dreading to meet him and fearing his influence over her, but this apprehension, with the passing of a curiously brief period, dissolved into a confidence in her ability to withstand further interference, on any one's part, with her feelings.

Gale Morgan rode into town frequently, and Nan at first painfully apprehended hearing some time of a deadly duel between her truculent Gap admirer and her persistent town courtier—who was more considerate and better-mannered, but no less dogged, and in fact, a good deal more difficult to handle.

As to the boisterous mountain-man, his resolute little cousin made no secret of her detestation of him. She denied and defied him as openly as a girl could and heard his threats with continued indifference. She was quite alone, too, in her fear of any fatal meeting between the two men who seemed determined to pursue her.

The truth was that after Calabasas, de Spain, from Thief River to Sleepy Cat, was a marked man. None sought to cross his path or his purposes. Every one agreed he would yet be killed, but not the hardest of the men left to attack him cared to undertake the job themselves. The streets of the towns and the trails of the mountains were free as the wind to de Spain. And neither the town haunts of Calabasas men nor those of the Morgan Gap sympathizers had any champion disposed to follow too closely the alert Medicine Bend railroader.

In and about the hospital, and in the town itself, Nan found the chief obstacle to her piece of mind in the talk she could not always avoid hearing about de Spain. Convalescents in the corridors, practically all of them men, never gathered in sunny corners or at the tables in the dining-room without de Spain's name coming in some way into the talk, to be followed with varying circumstantial accounts of what really happened that day at Calabasas.

And with all the known escapades in which he had figured, exhausted as topics, by long-winded commentators, more or less hazy stories of his earlier experiences at Medicine Bend in the company of Whispering Smith were dragged into the talk. One convalescent stage-guard at the hospital told a story one night at supper about him that chilled Nan again with fears, for she knew it to be true. He had it from McAlpin himself, so the guard said, that de Spain's father had long ago been shot down from ambush by a cattleman and that Henry de Spain had sworn to find that man and kill him. And it was hinted pretty strongly that de Spain had information when he consented to come to Sleepy Cat that the assassin still lived, and lived somewhere around the head of the Sinks.

That night, Nan dreamed. She dreamed of a sinister mark on a face that she had never before seen—a face going into bronzed young manhood with quick brown eyes looking eagerly at her. And before her wondering look it faded, dream-like, into a soft mist, and where it had been, a man lay, lifting himself on one arm from the ground—his sleeve tattered, his collar torn, his eyes half-living, half-dead, his hair clotted, his lips stiffened and distended, his face drawn. And all of this dissolved into an image of de Spain on horseback, sudden, alert, threatening, looking thru the mist at the enemy. Then Nan heard the sharp report of a rifle and saw him whirl half around—struck—in his saddle, and fall. But he fell into her arms, and she woke sobbing violently.

She was upset for the whole day, moody and apprehensive, with a premonition that she should soon see de Spain—and, perhaps, hurt again. The dream unnerved her every time she thought of him. That evening the doctor came late. When he walked in he asked her if she knew it was Frontier Day, and reminded her that just a year ago she had shot against Henry de Spain and had beaten the most dangerous man and the deadliest shot on the mountain divide in her rifle match. How he had grown in the imagination of Sleepy Cat and Music Mountain, she said to herself—while the doctor talked to her uncle—since that day a year ago! Then he was no more than an unknown and discomfited marksman from Medicine Bend, beaten by a mountain girl; now the most talked-of man in the high country. And the suspicion would sometimes obtrude itself with pride into her mind, that she who never mentioned his name when it was discussed before her, really knew and understood him better than any of those that talked so much—that she had at least one great secret with him alone.

When leaving, the doctor wished to send over from his office medicine for her uncle. Nan offered to go with him, but the doctor said it was pretty late and Main Street pretty noisy; he preferred to find a messenger.

Nan was sitting in the sick-room a little later—B-19 in the old wing of the hospital, facing the mountains—when there came a rap on the half-open door. She went forward to take the medicine from the messenger and saw, standing before her in the hall, de Spain.

She shrank back as if struck. She tried to speak. Her tongue refused its office. De Spain held out a package in his hand. "Doctor Torpy asked me to give you this."

"Doctor Torpy? What is it?"

"I really don't know—I suppose it is medicine." She heard her uncle turn in his bed at the sound of voices. Thinking only that he must not at any cost see de Spain, Nan stepped quickly into the hall and faced the messenger. "I was over at the doctor's office just now," continued her visitor evenly, "he asked me to bring this down for your uncle." She took the package with an incoherent acknowledgment. Without letting her eyes meet his, she was conscious of how fresh and clean and strong he looked, dressed in a livelier manner than usual—a partly cowboy effect, with a broader stetson and a gayer tie than he ordinarily affected. De Spain kept on speaking: "The telephone girl in the office downstairs told me to come right up. How is your uncle?"

She regarded him wonderingly. "He has a good deal of pain," she answered quietly.

"Too bad he should have been hurt in such a way. Are you pretty well, Nan?" She thanked him.

"Have you got over being mad at me?" he asked.

"No," she averred resolutely.

"I'm glad you've not," he returned. "I'm not over being mad at myself. Haven't seen you for a long time. Stay here a good deal, do you?"

"All the time."

"I'll bet you don't know what day this is?"

Nan looked up the corridor, but she answered to the point: "You'd lose."

"Its our anniversary." She darted a look of indignant disclaimer at him. But in doing so she met his eyes. "Have you seen the decorations in Main Street?" he asked indifferently. "Come out for a minute and look at them."

She shook her head: "I don't care to," she answered, looking restlessly, this time, down the corridor.

"Come to the door just a minute and see the way they've lighted the arches." She knew just the expression of his eyes that went with that tone. She looked vexedly at him to confirm her suspicion. Sure enough there in the brown part and in the lids, it was, the most troublesome possible kind of an expression—hard to be resolute against. Her eyes fell away, but some damage had been done. He did not say another word. None seemed necessary. He just just kept still and something—no one could have said just what—seemed to talk for him to poor defenseless Nan. She hesitated helplessly: "I can't leave uncle," she objected at last.

"Ask him to come along."

Her eyes fluttered about the dimly lighted hall; de Spain gazed on her as steadily as a charmer. "I ought not to leave even for a minute," she protested weakly.

"I'll stay here at the door while you go,' replied de Spain

Irresolute, she let her eyes rest again for a fraction of a second on his eyes; when she drew a breath after that pause everything was over. "I'd better give him his medicine first," she said, looking toward the sick-room door.

His monosyllabic answer was calm: "Do." Then as she laid her hand on the knob of the door to enter the room: "Can I help any?"

"Oh, no!" she cried indignantly.

He laughed silently. "I'll stay here."

Nan disappeared. Lounging against the window-sill opposite the door, he waited. After a long time the door was stealthily opened. Nan tiptoed out. She closed it softly behind her. "I waited for him to go to sleep," she explained as she started down the corridor with de Spain. "He's had so much pain today. I hope he will sleep."

"I hope so, too," exclaimed de Spain fervently.

Nan ignored the implication. She looked straight ahead. She had nothing to say. De Spain, walking beside her, devoured her with his eyes; listened to her footfalls; tried to make her talk; but Nan was silent.

Standing on the wide veranda outside the front door, she assented to the beauty of the distant illumination but not enthusiastically. De Spain declared it could be seen very much better from the street below. Nan thought she could see very well where they stood. But by this time she was answering questions—dryly, it is true, and in monosyllables, but answering. De Spain, leading the way a step or two forward at a time, coaxed her down the driveway.

She stood again irresolute, he drinking in the fragrance of her presence after the long separation and playing her reluctance guardedly. "Do you know," she exclaimed with sudden resentment, "you make it awfully hard to be mean to you."

With a laugh he caught her hand and made her walk down the hospital steps. "You may be as mean as you like," he answered indifferently. "Only, never ask me to be mean to you."

"I wish to heaven you would be," she retorted.

"Do you remember," he asked, "what we were doing a year ago today?"

"No." Before he could speak again she changed her answer: "Yes, I do remember. If I said 'no' you'd be sure to remind me of what we were doing. We can't see as well here as we could from the steps."

"But from here, you have the best view in Sleepy Cat of Music Mountain."

"We didn't come out here to see Music Mountain."

"I come here often to look at it. You won't let me see you—what can I do but look at where you live? How long are you going to keep me away from you?"

Nan did not answer. He urged her to speak.

"You know very well it is my people that will never be friendly with you," she replied. "How can I be?"

They were passing a lawn settee. He sat down. She would not follow. She stood in a sort of protest at his side, but he did not release her hand. "I'll tell you how you can be," he returned. "Make me one of your people."

"That never can be," she declared stubbornly. "You know it as well as I do. Why do you say such things?" she demanded, drawing away her hand.

"Do you want to know?"

"No."

"Its because I love you."

She strove to command herself. "Whether you do or not can't make any difference," she returned steadily. "We are separated by everything. There's a gulf between us. It never can be crossed. We should both of us be wretched if it ever were crossed."

He had risen from the bench and caught her hand. "Its because we haven't crossed it we're wretched," he said determinedly. "Cross it with me now!" He caught her in his arms. She struggled to escape. She knew what was coming and fought to keep her face from him. With resistless strength and yet carefully as a mother with an obstinate child, he held her slight body against his breast, relentlessly drawing her head closer. "Let me go!" she panted, twisting her averted head from the hollow of his arm. Drinking in the wine of her frightened breath, he bent over her in the darkness until his pulsing eagerness linked her warm lips to his own. She had surrendered to his first kiss.

He spoke. "The gulf's crossed. Are you awfully wretched?"

They sank together down on the bench. "What," she faltered, "will become of me now?"

"You are better off now than you ever were, Nan. You've gained this moment a big brother, a lover you can drag around the world after you with a piece of thread."

"You act as if I could!"

"I mean it; its true. I'm pledged to you forever—you, to me, forever. We'll keep our secret till we can manage things; and we will manage them. Everything will come right, Nan, because everything must come right."

"I only hope you are not wrong," she murmured, her eyes turned toward the sombre mountains. The surrender had not been easy for Nan. Born and bred in the freedom of the mountains she felt that she had given up a part of her liberty. It was the old, old, story, but complicated with possibilities of what her uncle and, in fact, all of her old companions, might think and say and do. The possibilities were of a kind that Nan did not want to contemplate just at this time. She preferred to be happy while she could.

(To be Continued.)

LIFE'S SUNSET

A little more tired at close of day;
A little less anxious to have our way;
A little less ready to scold and blame;
A little more care for a brother's name;
And so we are nearing the journey's end,
Where time and eternity meet and blend.

A little less care for bonds and gold;
A little more zest in the days of old;
A broader view and a saner mind,
And a little more love for all mankind;
A little more careful of what we say;
And so we are faring a-down the way.

A little more love for the friends of youth;
A little more zeal for established truth;
A little more charity in our views,
A little less thirst for the daily news;
And so we are folding our tents away
And passing in silence at close of day.

A little more leisure to sit and dream,
A little more real the things unseen;
A little bit nearer to those ahead,
With visions of those long-loved and dead;
And so we are going where all must go,
To the place the living may never know.

—Martha C. Lang.

Uncle Amos Says: "There's nothin drives away the blues an' makes you forget your troubles so well as a bunch o' youngsters an' a dog. If you hev lost yer faith in mankind an' inclined to think the whole bloomin' show—includin' Christmas—is a fake, jest ferget yer age an' yer dignity fur a while an' be young with the children. It takes mighty little besides plain, human kindness to make a whole sledful happy. Ye'll begin to learn that sin is acquired, 'stead o' bein' original.

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Dec. 24, 1917.

This being Christmas week, of course the main attraction was Christmas poultry and KING TURKEY ruled the roost. The market certainly was booming. Buyers were out in force and prices were high, and all fancy stock was being quickly snapped up at outside prices. The range generally on fancy stock was from 40@45c, with several sales of strictly fancy birds bringing one cent or more premium over these prices. Poor and common turkeys ranged from 35c up. Fowls and chickens were also very active and selling promptly at 25@30c per lb., with fancy heavy fowl being in especially good request. Ducks also were cleaning up promptly, ranging generally at 28@30c for best with poor stock down as low as 25c. There were not so very many geese here and these sold readily at 25@30c as to quality. The demand for geese is always better for the New Year's market than the Christmas market. There was a strong demand also for squabs, which sold as high as $7 per dozen for the large sizes, with small and dark squabs on down as low as $3.50@4.

Live poultry was also receiving its share of attention and the market ruled very firm and active on all choice stock. Turkeys were selling generally at 30@35c, altho an occasional sale of some of the extra fancy were reported as high as 38c, but this price was a little extreme. All fancy heavy fowl and chickens were cleaning up on arrival at 25@26c, with smaller at 22@24c. Ducks were meeting a ready outlet at 25@28c generally, with geese bringing nearly the same prices.

Vegetables

As is usually the case during the Christmas Holidays, potatoes received very little attention, and very little trading was being done. As was reported in these columns last week, the potato situation is a peculiar one and hard to understand. Today there were only 27 cars of potatoes reported in the delivery yards of the Pennsylvania and the Reading Railroads. Under ordinary conditions this is hardly sufficient for a single day's business, but the trade does not appear to care whether it buys potatoes or not. Pennsylvania potatoes are selling mostly at $2.40@2.50 per cwt., with some extra fancy at $2.60. New York states are being sold at $2.20@2.40 per cwt. There have been no fresh arrivals of southern potatoes since our last issue. Nearby Jersey farmers are hauling in a small number daily which are selling at 75@90c per ⅝ basket.

Sweet potatoes are in light supply and meeting a fair demand with New Jersey stock selling at $1.25@1.35 per ⅝ basket generally, with some strictly fancy a little higher, and poor grades lower. Maryland and Delaware stock in bushel hampers is selling at $1.65@1.85 for best No. 1 stock, with No. 2 drawing from $1.10@1.25. There is very little change to note in dried beans. Receipts have been light and the market is firm at $16 for marrows, $14.75@15 for Pea and Mediums, with Red Kidneys ranging from $14.75@15.25. Fancy green Florida beans are in light supply and such sell readily at $5@6 per hamper. There are, however, quite a number of poor old beans and some that are showing effects of cold here, and these are selling at very irregular prices, ranging from $1.25 up to $3 as to condition. Winter beets from Pennsylvania and New Jersey points are in light supply and meeting a good demand at $3@3.50 per barrel. Bunch beets are also firm and active at $3@3.50 per 100. Brussel sprouts are showing a wide range in quality. Some very fancy stock is selling at 18@20c per quart, with poor and yellow ones from 13@15c.

Carrots are firm and active for new bunched stock at 2@3 per hundred bunches, but old carrots are rather dull at $2@2.50 per barrel. Cabbage is doing better. Most of the old frosted accumulations have been cleaned up and fresh arrivals, free of frost, are now selling quickly at $42 per ton, with stock showing little frost at $35@38 per ton. Good hot-house cucumbers are in active demand at $1@1.25 per dozen. Celery has been in quite liberal supply, but the market rules steady on fancy stock which is selling mostly at $3@3.75 per crate in the rough. Pennsylvania celery has been meeting with an active demand at prices ranging all the way from 10@18c per bunch. Egg plants are very scarce and bringing high prices, some fancy stock selling up to $6 per crate, while poor sold on down as low as $3 per crate. Horseradish is in light supply and meeting a good demand. Some good New Jersey horseradish is bringing as high as $9 per barrel, but most sales are being made at $5@8.

The market has been oversupplied with lettuce for several days past, and the market is ruling weak and very low. Florida is supplying the greater bulk of the supplies at this time, altho California and New Orleans have been shipping quite freely. Florida lettuce sold this week at 75c@$1 per hamper. California lettuce has been very poor in quality, much of it being frozen. This sold at 50c@1 per box. New Orleans lettuce brought from $2@2.50 per barrel. Fancy hothouse mushrooms from Pennsylvania points have been selling at $1.25@2 per 4-lb basket. While supplies of onions have not been heavy, the demand has only been moderate and prices are showing practically no change from last week. Best stock is selling at $2.75@3 per cwt., with poor lower. Parsnips have been in moderate supply and meeting with a fair movement with prices ruling steady and practically unchanged, at 55@70c per basket. Peas are in very limited supply and bringing high prices when fancy, some Californias here this week selling at $10@12 per drum. Parsley has been in more liberal supply and prices are lower, ranging from $5@7 per barrel. There has been a good demand for radishes which are ruling firm at $2@3 per 100 bunches.

Altho peppers are still in light supply the demand is not quite so active and prices are about $1 per crate lower than last week, best stock now selling at $7 per crate, with some that showed frost at $3 per crate. Shallots have been more plentiful and prices are quite a little lower, ranging from $3@4 per barrel. A car of kale which arrived the first of the week sold at $4.50 per barrel, while two cars of kale sold at $2.40 per barrel. Squash continues in very light supply and bringing good prices ranging from $3@4 per crate. There is very little change to note in nearby turnips. Good fancy white turnips are in good demand at 35@50c per basket with yellow Aberdeens at 40@60c. The yellow Pennsylvania turnip has been very scarce and when here has been selling quickly at 90c@$1 per basket. Rutabagas are in light supply, but many of them have been frozen and these sold as low as 50c per cwt; medium sized, free of frost, are bringing from $1@1.15 per cwt. Good fancy ripe tomatoes very scarce and wanted. Most of the stock is arriving green. Fancy 144-size tomatoes from Florida are selling at $3.50@4.50 per crate, but fancy hard ripe would exceed these prices. Choice 180's are selling at $2.50@3.50. Hot house tomatoes are in good demand when fancy, at 22½@27½c per lb., there are many poor No. 2's which are hard to move at low prices, some sales being reported as low as 12½@15c per lb. Watercress is in light supply and firm at $2@2.50 per 100 bunches.

Fruits

The recipts of apples are extremely light for this particular period of the year. The daily offerings are averaging five to ten cars. Under these light supplies the market as is to be expected is very firm and active on fancy fruit, but the bulk of offerings are only ordinary to good. Baldwins are selling from $3.50@5 per barrel, Ben Davis at $2.75@4.25; Black Bens, $3@4.50. Black Twig, $3.50@5.25; Ganos sold from $3@4.50; Greenings, $3.50@5.50. There are no really good Greenings among the offerings and strictly fancy would readily bring $6. Kings are selling from $3.50@5.50; Hubbardson, $3.50@4.75; Starks, $3.50@4.50; Spys, $3.50@5.50; Snows, $4@5.50; Stayman Winesaps, $4@6.25; Twenty Ounce, $4@5; York Imperials, $3@5.25; Winesaps, $3.50@5; Rome Beauty, $5@5.50. Extra Fancy, $6.50. Theer have been heavier offerings of boxed apples for the past several days than barrels. These have been finding a steady market about as follows: Rome Beauty, $1.50@2.25; Spitzenbergs, $1.50@2.25; Jonathans, $1.50@2.10; Delicious, $2@2.50; Ortleys, $2.25@2.50; Winesaps, $1.75@2.25.

About the only pears now on the market are Keiffers and those are finding a rather slow market at $2.25@3.25 per barrel. There are but very few cranberries left on the market. These continue to bring high prices, ranging from $14@15 per barrel for best barrels with poor and weak from $10@12. Grapes are selling all the way from $3.50@4.50. A few California strawberries have been on the market and bring high prices when fancy, some sales having been made up to 60c a pint. Some, however, arrived in a badly frozen condition and these sold at 15c a pint.

Eggs

Strictly fancy fresh eggs continue scarce and a few small lots that are arriving are not near enough to supply the demand. In fact so few are coming that quotations are a little more than nominal. Nearby firsts are selling at 58c; current receipts, 56@57c and second at 45@50c. Western fresh are selling from 56@58c per dozen. Carefully selected, well graded and candled eggs are jobbing out all the way from 60@65c per dozen.

YORK PRODUCE MARKETS

York, Pa., Dec. 24, 1917.

The holidays have added considerable life to the markets as shown by the demand for certain lines of produce. Celery was eagerly sought for, as also were first class apples; Stayman's topping the market at $2 and 2.50 wholesale, and 40c ½ pk. with 5c each and 50c a dozen in smaller quantities. Turkeys are not plenty and no particular price set on them, while geese are found here and there but the price is up. Other poultry is in light demand.

Eggs.—56@58c per dozen.

Butter.—Country, 48@50c lb; separator, 54@56c; milk, 10c qt.

Poultry.—Hens, 18c lb; dressed 60c@1.25 each.

Vegetables.—Potatoes, 12@20c ½ pk; 80c@$1.25 bu; cabbage, 3@12c hd; lettuce, 5@10c hd; beets, 5c bch; radishes, 6c bch; onions 12c bx; 25@30c ½ pk; lima beans, 35c qt; soup beans, 34@40c qt; celery, 5@10c stalk; turnips, 20@25c ½ pk; corn meal 10@12c qt.

Fruit.—Apples, 12@40c ½ pk; $1@2.50 per bu; pears, 10c bx; 15c ½ pk.

Retail Grain Market.—Wheat, $2.25; corn, $2 per bu; oats, 95c; rye, $1.75; bran, $2.20 cwt; middlings, $3 per cwt.

Wholesale Grain Market.—Wheat, $2.11; corn, $1.60; oats, 75c; bran, $42 per ton; middlings, $50@58 per ton.—W.

LANCASTER PRODUCE

Lancaster, Pa., Dec. 24, 1917.

Today's market was one of the largest ever held here. Turkeys were extremely scarce and sold for from 50 to 55c a pound, Philadelphia dressed. On the other hand, chickens were plentiful, and they sold for rates ranging from 90c to $1.50. Some brought $1.75. Eggs were scarce and brought as high as 60c a dozen, a high record.

Butter and Eggs.—Creamery butter, 55@58c per lb; country butter, 55c; fresh eggs, 55@60c per dozen; storage eggs, 45c; western eggs, 45c.

Poultry.—Dressed old chickens, $1.25@1.75; dressed young chickens, 90c@$1.75; live chickens, $1.75@2. per pair; old live chickens, 25c per lb; live turkeys, 35@37c per lb; dressed turkeys, 50c; ducks, $1.25@1.50 each.

Vegetables.—Lima beans, 18c pt; lettuce, 5@12c hd; cauliflower, 15@20c hd; eggplant, 5@10c each; sweet potatoes, 30c ½ pk; potatoes, $1@1.35 per bu; do, 12@20c ½ pk; new turnips, 15c ½ pk; spinach, 15c ½ pk; apples, 20@30c ½ pk; pears, 20@25c per ½ pk.

Grain Market.—Milling wheat, $2 per bu; damp wheat, $1.80 per bu; new ear corn, $1.40; rye, $1.65; oats, 65c; No. 1 timothy hay, $23 per ton; clover hay, $18; wheat straw, $12; oat straw, $10.—R.

NEW YORK PRODUCE

New York City, Dec. 24, 1917.

Butter market quiet in most grades. Few changes in cheese. Egg prices remain firm and steady. Dressed poultry of all kinds is slightly lower. Fruits and vegetables in light receipt but market quiet.

Butter.—Creamery, extras (92 score), per pound, 50c; higher score, 50½@51c; thirds to firsts, 39@49c; state dairy, 38@49c; ladles, 31@34c.

Cheese.—Flats, specials, 24½c; do., colored, 23½c; prime, 22½@23c.

Eggs.—Fresh gathered extras, 60@61c; extra firsts, 58@59c; nearby white, fine to fancy, 68@70c; ordinary to good, 62@66c; browns, 61@63c.

Dressed Poultry.—Philadelphia and Long Island broilers, fancy, 38@40c; old roosters, 22c; squabs, $2.75@6.75 per dozen. Spring ducks, per lb., 28@32c; turkeys, fresh killed, 36@37c.

Vegetables and Greens.—Beets, bbl., $2.25@4. Onions per 100-lb. bag $1@2.75. Potatoes, Jersey, $1.83@2.50 per 100-lbs; state and western, $2.25@2.50 per 100-lbs. Carrots, $2@3.50 bbl.

Apples.—McIntosh, $4@7; Jonathan, $4@7; York Imperial, $4@4.75; Twenty Ounce, $4@5.50; King, $4@5.50; Baldwin, $3.50@5.00.

PHILADELPHIA LIVE STOCK

Philadelphia, Dec. 24, 1917.

Beef Cattle.—Receipts of steers and cows were light and values were steadily maintained, with demand limited to the satisfaction of immediate requirements. Calves were in good request and firm under light offerings, and occasional sales of very fancy stock were noted as high as $17.50.

Steers.—Best, $12.50@13.75; fair to good, $11@12.50; common, $10@11; bulls, 7@9.50; extra choice, higher; cows, fat, per lb., 7@9c; extra choice, higher; cows, fat, per lb., 6@7c; ordinary, per lb., 4½@6c; calves, exceptional lots, $16.50@17; good to choice, $15@16; medinm, $11@13; common, $7.50@8.50; Tennessee and southern, $8@16.

Sheep and Lambs.—The market for sheep ruled steady under moderate offerings and a fair demand. While prices of lambs were quotably unchanged, there was a slightly easier feeling in the market, due to bearish advices from outside points. Offerings were sufficient to cover requirements.

Sheep.—Wethers, extra, $12@12.50; good to choice, $10@11; medium, $7.50@8.50; common, $5.50@6.50; ewes, heavy, fat, $10@11.

Lambs.—Choice, $18@18.50; do, medium, $16@17; inferior, $14@15.

Hogs.—Bearish advices from the west influenced a weaker feeling in this market and prices were reduced. Offeringa were moderate, but ample for requirements. Quotations for best western $18.50@18.75.

City Dressed Stock.—Lambs were dull with little change in prices. Other descriptions were in fair request and values generally ruled firm.

Steers, 15@21c; heifers, 14@18c; cows, 10@17c; calves, 23@24c; southern and barnyards, 17@19c; country dressed, 20@22c; sheep, 22c; do, extras, 23c; lambs, 27c; do, extras, 28c; hogs, 24c.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Dec. 24, 1917.

Bailed Hay and Straw.—Receipts, 96 tons of hay and seven cars of straw. The market for hay ruled firm under light receipts and a fair demand. Straw was in fair request and generally steady.

Timothy hay, according to location—No. 1, large bales, $28@28.50; No. 1, small bales, $28@28.50; No. 2, $26@27;; No. 3, $23@24.50; sample, $19@21; no grade, $15@17.

Clover-mixed Hay.—Light mixed, $26@27; No. 1 do, $25@26; No. 2 do, light mixed, $22@23.

Straw.—No. 1 straight rye, $17.50; No. 2 do, $16.50@17; No. 1 tangled rye, $16@16.50; No. 2 do, $15@15.50; No. 1 wheat straw, $15@15.50; No. 2 do, $14@14.50; No. 1 oat straw, $15.50; No. 2 do, $14@14.50.

Bran—The market ruled firm under small supplies, but trade was quiet.

Soft winter bran, in 100-lb. sacks, per ton, $46.50@47; spring bran, in 100-lb. sacks, per ton, $45.50@46.

Wheat.—No. 2, red, $2.25.

Corn.—Nominal.

Oats.—No. 2, 90@90½c; standard white, 89½@90c.

Rye.—Nearby, as to quality, $1.80.

NEW YORK HAY AND GRAIN

New York City, Dec. 24, 1917.

Feed.—At the moment prices are mainly nominal During the coming week a general readjustment will take place, with considerable reduction in value, this being necessary in order to meet the decision of the Food Administration, placing maximum values and limiting grades of both flour and feed. Consequently, consumers are willing to hold off on fresh business until these rules become effective. Mills are well sold up and deliveries are being made as rapidly as possible, considering the transportation difficulties. Western spring in 100-lb sacks, $46.50; standard middlings $47.50; flour in 100-lb sacks to arrive, $53; red dog to arrive, in 100-lb sacks, $63. City feed, bulk bran, $45; 100-lb. sacks, $46; heavy feed bulk, $49; 100-lb sacks, $48; red dog, $64; flour, $63. Linseed oil meal, $58.

Hay and Straw.—Market is dull and generally weak thruout. At 33rd street hayshed offerings are not oppressive, but trade is slow and market is in buyers' favor thruout, especially in all medium and low grades. In Brooklyn there is a heavy surplus of hay, trade is dull and market very weak and irregular, with sales at all sorts of prices, this being especially true of small baled hay, the proportion of which is very heavy. A little call for clover, mixed, and hardly anything here at the moment. Rye straw easy.

Wheat.—No. 2, red, $2.25.

Corn.—No. 3, yellow, $1.69 per bushel.

Oats.—No. 2, white, 90½c; No. 3, 89½c.

Rye.—$1.91.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Dec. 24, 1917.

Butter.—While as usual on the last day of the week there was no pronounced activity in the wholesale market, there was sufficient inquiry to readily absorb the very limited offerings of hig-grade solid-packed creamery, prices of which ruled firm. Medium grades, which comprise the bulk of the supply, were in moderate request at inside prices. Prints of fine quality were scarce and firm under a fairly active demand, but unattractive qualities were dull and weak.

Western, fresh, solid-packed creamery, extra, 50c; high-scoring goods, 51@52c; extra firsts, 48@49c; firsts, 45@47c; seconds, 41@48c; sweet creamery, extra, 51c; under grades, 48@50c; held creamery, good to choice, 44@46c; do, ordinary, 40@42c; nearby prints, fancy, 54c; average extra, 51@53c; firsts, 47@49c; seconds, 42@43c; special brands jobbing at 55@57c.

Cheese.—The market was quiet and unchanged with ample offerings.

New York, full cream fancy, June, 25c; specials higher; do, fresh made, best 22¾@23c; do, fair to good, 22@22½c.

NEW YORK MILK MARKET

Owing to the usual Christmas slump, coupled with an increase in supply, the market is easy. There is a good demand for condensing purposes. As the investigation by the Federal Milk Commission draws to a close there are rumors of an increase in the rates to the November level. The Commission of course, will not confirm the rumors. Dr. Jordan, the chairman, said yesterday that the commission had made a very satisfactory and comprehensive analyses of the cost of production and was working on the cost of distribution. The Commission evidently hopes to find a way of cutting down the cost of distribution. It proposes in setting a price, to take into consideration all of the interests involved—the producers, the distributors and the consumors.

League rates to the producers of Grade B (barn score 55) in the first district are $3.10 for 3 percent milk; $3.34, or approximately 7.1 cents per quart for 3.6 percent; and $3.50 for 4 percent milk.

Owing to the necessity of getting this report in at an early date, no satisfactory report of receipts can be made.

TOBACCO MARKET

In Pennsylvania the residue of the 1917 tobacco crop is now held at the almost uniform price of $30 per cwt. and it is regarded as practically sure that this price will be paid, granting, of course, that the quality is up to the standard. It is noted that as high as $32 and 12 was offered several growers who held out for $30 thru, thus adhering to the growing demand for a straight as compared with a varied price. At a meeting of the Tobacco Growers' Association so many crops were reported as to give rise to the impression that a smaller part of the crop has been contracted than reports have indicated. It was said that stripping has commenced in practically all localities and extensive deliveries will soon be made. As tobacco is handled the quality is found even better than expected and there will be little probability of any rejections on the part of buyers who will know that in practically all instances a rejection or quibble of any sort would soon result in the grower selling elsewhere, and for more money. It was noted that never heretofore have growers been so uniformly successful in pricing their own tobacco as compared with the former custom of allowing the buyers to do all of the bartering. It is to be hoped that with this move in the right direction a permanent change may take place. It was announced that a local experiment station had grown some 1,000 heads of tobacco seed which is offered at $1 per ounce. This number of plants made a total of 15 pounds recleaned seed. The strain is not stated but it is probably of the popular Slaughter type.—H. E. Tweed, Dec. 24, 1917.

GRASS SEED MARKET

Toledo, O., Dec. 22, 1917.

Cloverseed, prime, cash old, $16; new, $16.20; December, $16.20; January, $16.30; February, $16.35; March, $16. Alsike, prime cash, $14.30; December, $14.30; February, $14.40; March, $14.50. Timothy, prime, cash old, $3.60; new, $3.70; December, $3.70; March, 3.90.

COUNTY NOTES

Lebanon Co., Pa., (SE) Dec. 19.—Weather is overcast and cold with a 12-inch snow fall covering the ground. The snow caught a few farmers napping, as they had not finished husking corn and must now wait untill the snow is away. Others had done their fall work and were plowing. Nearly all of the corn is husked and safe in the crib. It was a good yield. Most of the tobacco growers have now sold their crops at prices ranging from 22 to 28 cents per pound; others are still holding for 30 to 35 cents per pound. Some farmers are butchering this week, but there is not as much of this as usual at this season of the year because of the high price of hogs. Wheat sells at $2.20 per bu.; corn, $1.65; potatoes, $1.30; milk, $3.15 per hundred pounds; butter, 64 cents; eggs, 52 cents dozen. Some farmers are busy in the woodlot these days.—Leonard F. Strickler.

Crawford Co., Pa., (N. W.) Dec. 17.—Weather is cold. Snow is drifted deep and we have had some days 15 below zero. Eggs, 50 and 60 cents; butter, 50 cents; potatoes, $1.50; hay, $18. Feed of all kinds is high. Veals, 12 to 13 cents alive; dressed hogs, 20 to 21 cents. Fuel is scarce. Coal is hard to get and it is hard to get any one to cut wood. Lots of corn in the fields yet; much of it never dried out. Business is quite unsettled.—J. F. Seavy.

LATE BULLETINS

Corn Earworm.—Farmers' Bulletin No. 872 of the U. S. Department of Agriculture discusses the earworm that works on corn. The discussion covers the character of the injury done, habits of the insect and how it works, seasonal history and relation of abundance to crop growth, and control measures. The bulletin is free upon request from the above department, Washington, D. C.

Diseases and Insects of the Home Garden.—Farmers' Bulletin No. 856, of the U. S. Department of Agriculture discusses Control of Diseases and Insect Enemies of the Home Garden. The discussion covers the plant diseases and insects, prevention of disease and insect infection, formulas for fungicides and insecticides, mechanical method of control, spraying methods, general crop pests, general crop diseases, principal garden crops and the insects and diseases that attack them. The bulletin is fully illustrated and should prove of value to every gardener, whether he operates a small garden or a large one. The bulletin is free for the asking from the above Department, Washington, D. C.

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that make a horse Wheeze, Roar, have Thick Wind or Choke-down, can be reduced with

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One application usually enough; sometimes two required. Intended only for the established cases of Bone Spavin, Ringbone and Sidebone, causing chronic lameness.
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For the recent cases of Bone Spavin, Ringbone and Sidebone and for Bog Spavin, Splint, Curb, Soft Enlargements, etc. Your money back if they remedies fail. Write for Fleming's Vest-Pocket Veterinary Adviser. 192 pages, 67 illustrations.
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Put flesh on it's bones. Give it life and vigor. Can add 50 percent to looks and value. Satisfaction guaranteed or no pay. Send postal for free offer.
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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Irregular molar Teeth.—Would be pleased to know thru the columns of Pennsylvania Farmer the cause of my horse passing whole oats. It is the result of feeding too little hay and too much oats? The dung has a very offensive odor. How much hay and grain would you advise feeding a 1,300- or 1,400-lb. horse that is doing light work? M. A. F., Choconut, Pa.—First of all, his grinder teeth should perhaps be floated. Feed one part dry bran and four parts whole oats, or feed one part wheat bran, two parts ground corn and three parts ground oats. Also feed him all the well-cured, mixed hay he will eat. An idle horse should not be fed more than one-third the quantity of grain that should be allowed him while doing hard work. One quart of dry wheat bran, one quart of shelled corn and three quarts of oats is about the right quantity to feed a horse of that size while doing moderately hard work, but of course some horses of equal weight require considerably more food than others; besides, a thin horse should be fed a little more food than a fleshy one, and especially when they are idle.

Warts—Ringworm.—I would like to know what can be done for a heifer that has large wart or growths the size of a nut on neck. The same heifer has a rough condition of skin below and around the eye and on other parts of body. I also had a calf, three months old, to die of scours. This calf sucked its mother from birth. M. K., Andes, N. Y.—The warts should be cut off, then apply equal parts of powdered alum and tanic acid until wound heals. Paint scurvy patches on healthy parts of skin with tincture iodine, three times a week. Disinfect your cow stable and calf stable and you will perhaps be able to prevent your calves from taking scours.

Contagious Abortion.—I have 19 head of cattle and some of my cows are losing their calves four or five weeks before they are due to come fresh. Can miscarriage be prevented in balance of my herd? M. S. A., Phillipsburg, N. Y.—Infectious abortion is a specific inflammation of the mucus membrane of the uterus which, in pregnant animals, generally produces premature birth. After conception takes place the mouth of womb is sealed, I do not believe that miscarriage can be prevented; however, by cleanliness, proper disinfection of your stable and keeping your cows in a healthy condition, miscarriage may be postponed somewhat. When infectious abortion has once gained a foothold in a dairy, treatment is rarely successful. As you no doubt know, the germs of the disease are within the uterus and cannot be reached with disinfectants. The separation of the sick from the healthy animals, burning the foetus and afterbirth are very important things to do; besides, the aborting cow should not be bred for sixty days after she miscarries. Washing out the vagina and uterus promptly after miscarriage with a solution of permanganate of potash and clean tepid water, which has been previously boiled, is helpful. Dissolve one dram permanganate of potash in one-half gallon of water and use it thru a rubber tube and tin funnel. The cow should be treated daily after she aborts until vaginal discharge ceases. I might add that nearly all the commercial remedies on the market possess more or less merit and many of them are well worthy of a trial. But, in my practice, I find that few dairymen are willing to put in the work necessary to eradicate infectious abortion from their herd and premises. Flirting with this ailment (which is a very serious one) will accomplish but little, and selling off aborters and stocking up with new cows or heifers is usually a mistake.

Specially Built Tires

OUR DOUBLE TREAD TIRES have gained and held the confidence of the farmer—and especially when used on rough frozen roads, where our tires do their best work. They are heavily reinforced to stand any test—are low in price—and guaranteed.

The following are the little prices of our guaranteed tires:

Sizes	Price	Sizes	Price
30x3	$6.50	36x4	$11.00
30x3½	$7.50	34x4½	$12.00
32x3½	$8.50	35x4½	$12.00
33x4	$10.50	36x4½	$13.00
34x4	$10.50	37x4½	$13.50

We will retread your old tires by our improved process and guarantee them at the following prices:

Sizes	Price	Sizes	Price
30x3	$5.50	36x4	$8.50
30x3½	$6.00	34x4½	$8.50
32x3½	$7.00	35x4½	$9.00
33x4	$8.50	36x4½	$9.00
34x4	$8.50	37x4½	$10.00

Add $1.00 to the above for Non-Skid Tire

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Seven-eighths Holstein Heifer Calves $15 to $20 each, express paid in lots of five. Two Heifer Calves from registered sire (dam's record 27 lbs. butter 7 days), and Registered Bull Calf for $60 f. o. b. Cortland. Nice carload of two-year-old Heifers, bred to registered sire. I sell satisfaction and everything in Holsteins.
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Holstein Calves 4 registered heifers, 2 bulls, from a 30lb. sire. Write for prices, pictures and pedigrees. WALTER M. CRUTTENDEN, Wilkes Barre, Pa.

Guernsey Bulls Edwin B. Maule Coatesville, Pa.

AYRSHIRE BULL CALVES Advance Registry ancestry. Priced to sell. They will improve your herd. ROBERT TEMPLETON & SON, ULSTER, PA.

Jersey Bulls ready for light service. Send for pedigrees and prices. JOHN L. VAN HORN, TROY, PA.

Holstein Bulls from A. R. O. dams. Write your wants; they are priced to sell. M. E. Basehoar, Crystal Spring Stock Farm, Littlestown, Pa.

Reg. Shorthorn bull calf, 5 mos. old. Offered at reasonable price. Sunshine Stock Farm, H. L. McCloskey & Sons, Beech Creek, Pa.

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Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADE FARMS, R. D. 1, Harrisburg, Pa.

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O. I. C. SWINE Big Type, Stock all ages, from the herd that won premier and exhibitor at every fair shown and all champions on sows, also grand champion boar at Mich. and Ohio State Fairs. We breed the best. We sell what we breed. Every pig shipped on approval. Get our catalogue. Reg. Free. Write your wants. CRANDELL & SON, Box 53, Cass City, Mich.

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Big Type Poland Chinas Booking orders for Giant Smooth Wonder and Ohio King 2nd. These pigs are from 700 and 800 lb. sows. Sired by King of Wonders, Oaklands Equal and Wonderful Wonder. For particulars and prices address C. S. EPPLEY, Zanesville, Ohio.

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Reg. O. I. C. & Chester White Swine Fall pigs, brood sows and a service boar for sale. FRED BRYAN & SON, Star Route, Mansfield, Pa.

Reg. O. I. C. Swine and Shropshire Sheep. Serviceable boars, bred gilts, Aug., Sept., Oct. pigs. Bred ewes, ewe lambs of wool-mutton type. G. P. ANDREWS Dansville, Mich.

Large Berkshire Swine Registered High Grade. Prices reasonable. Write HOME FARM, CENTER VALLEY, PA.

REG. BERKSHIRE pigs for sale cheap next sixty days. W. J. McCONNELL, OXFORD, PENNA.

Reg. Chester Whites big type. Guernsey Calves. Write your wants. MOSES EABY, Landenberg, Pa.

Reg. Big Type Poland Chinas choice Sept. & Oct. pigs & sows bred for March farrow. R. H. LYLE, CADIZ, OHIO.

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CHESTER WHITES and POLAND CHINAS All ages. Registered free. Jersey bulls. J. A. BOAK, ROUTE 4, NEWCASTLE, PA.

LARGE BERKSHIRES AT HIGHWOOD Service boars, bred sows, pigs all ages. H. C. & H. B. HARPENDING, Box 45, Dundee, N.Y.

Durocs A choice 2 yr. old service boar; also Spring boars & will be bred for Mar., Apr. & May. Write your wants. Ira D. Jackson, R.10, Vanwert, O.

O. I. C. & C. W. pigs, shipped C. O. D. Sired by and out of champions. Misch lef 2d weight 500 lbs. at 12 mos. S. L. RHODES, VERSAILLES, OHIO.

Cheshires Several fine fall litters awaiting your orders. Price $10 each. Registered. FRED W. CARD & SON, SYLVANIA, PA.

Poultry

White Wyandottes Cockerels from laying strain, $2.50 each. Brothers of Pen 21, now leading in North American Contest. Bred from my exhibition line, $3 and $5. A. J. FELL, WEST POINT, PA.

S. C. White Leghorn yearling hens (Barron Strain), heavy layers, $1.50 each; 25 or more, $1.25 each; choice cockerels, $3 to $5 each; yearling cocks, $3 each. IVYWOOD POULTRY FARM, Box 71 A, Avondale, Chester Co., Pa

Silver and Golden Campine Cockerels, Golden Pullets and Indian Runner Drakes, $1 and $2 each. I. R. TANGER, YORK SPRINGS, PA.

White Wyandottes Genuine Tom Barron strain; choice egg-bred cockerels, $3. J. A. SHOTT, New Wilmington, Pa.

Baby Chix B. Rock, Red—order now for Jan. and Feb. delivery. Satisfaction assured. JUSTA POULTRY FARM, Southampton, N.Y.

Miscellaneous

For Sale Dark Brown Reg. Percheron Stallion. Sound, age 9 yrs., ht. 16 1-2 hands, wt. 1,600 lbs. One Sorrel Reg. Shire Bred Stallion, age 10 yrs., ht. 17 hands, wt. 1,700 lbs. The stallions are guaranteed to be sure foal getters; first premiums awarded wherever exhibited. Gentle to handle. Any one wishing to buy thorobred stallions will find it to their interest to come and see them. Full pedigrees given. Prices right. One pair Kentucky Mules, age 8 yrs., sound. Address F. P. MILLER, Springtown, Pa.

Scotch Collie Dogs for sale. Seventy-five head to make your selection from. More than 20 years a breeder of Collies. Send for illustrated circular and prices. HARVEY'S DOG FARM, CLAY CENTER, NEB.

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Ferrets For Sale —all sizes; any number. ALSO ANGORA KITTENS. C. JEWELL, SPENCER, OHIO

INSECTICIDE SUPPLY

By order of President Wilson the insecticide business of the country has been placed under the supervision of the Food Administration. It is planned to bring about cooperation between the state potato growers' association and the makers of insecticides and provide for local maintenance of supplies for the use of these and similar organizations. Plans are being made to have available a sufficient supply of white arsenic. It is also hoped that the price of all arsenicals may be stabalized by such control.

PREMIUMS FOR THE LARGEST EARS OF CORN

The Delaware Corn Growers' Association, which holds its 11th Annual State Corn Show in Middletown, Delaware, January 2-4, 1918, will have one class open to the world. For the ten ears of corn shelling the most grain by weight, is offered five dollars in gold; 2nd, three dollars; 3rd, two dollars. A moisture test will be made of each sample to determine the exact dry weight.

All entries must be received by A. E. Grantham, Secretary, Middletown, Delaware, on or before January 2nd, 1918. No entry fee is charged for non-residents.

MORE SHEEP—MORE WOOL ASSOCIATION

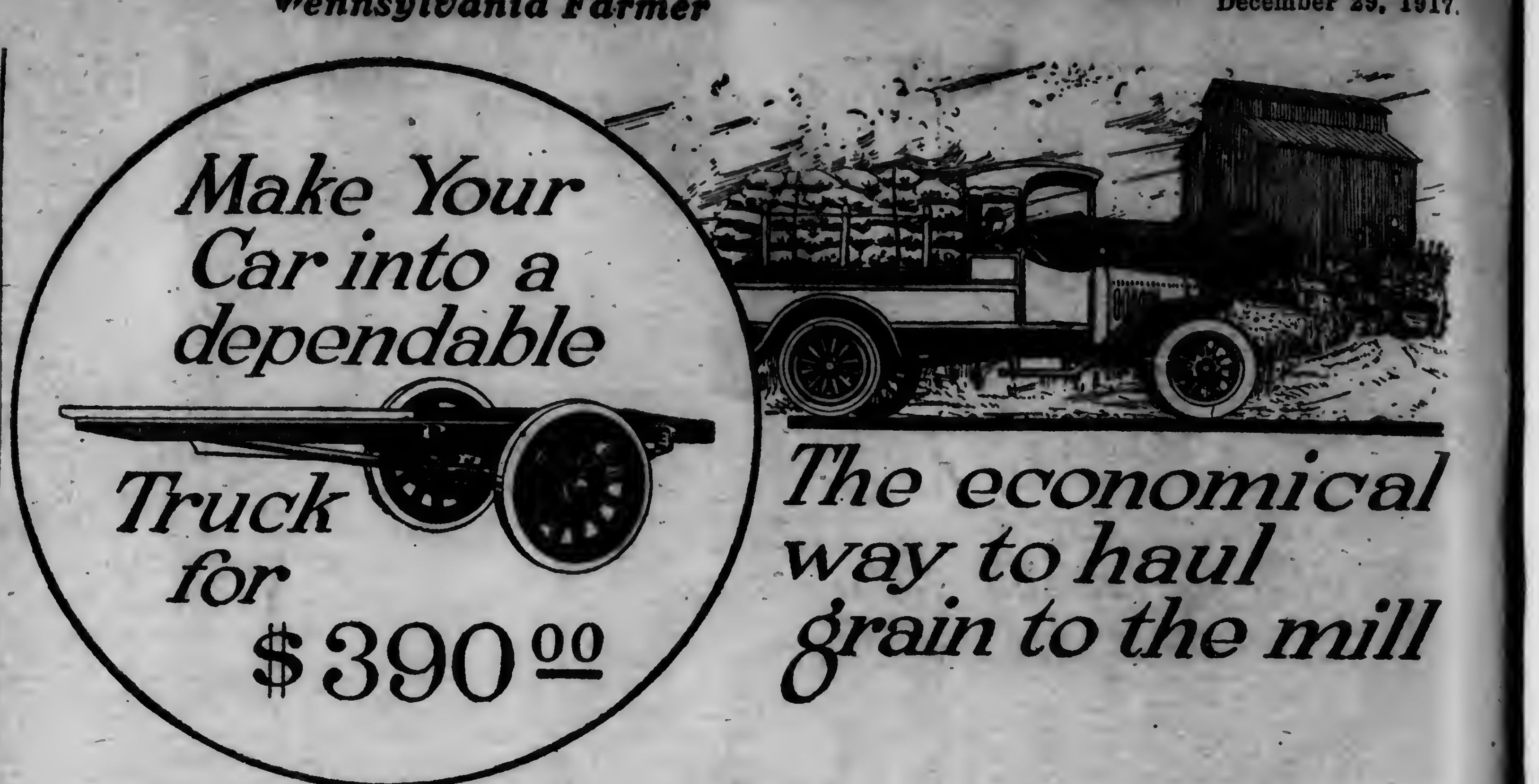
The More Sheep—More Wool Association has been completely organized and will take over and continue the work for the encouragement of the sheep industry inaugurated by the Philadelphia Wool and Textile Association. It is the purpose of the More Sheep—More Wool Association of the United States to encourage in all legitimate ways the development of sheep husbandry and obtain cooperation for this purpose to the widest extent possible. Mr. A. C. Bigelow, who has previously conducted the campaign, has been elected president of the new Association and will continue to direct its activities. The new association will maintain headquarters at 53 S. Front St., Philadelphia, Pa.

SCANT MEAT DIET IN GERMANY

According to figures secured from reliable sources by the U. S. Food Administration, the average consumption of meat by the civil population in Germany is one-half pound per week per person, distributed thru a rigid system of food cards. Other staple food products are likewise restricted.

Improve Farm Lighting System.—Lighting systems have been developed which are as greatly superior to the kerosene lamp as the kerosene lamp was to the tallow candle. For persons who can not afford a more expensive light, the kerosene mantle lamp is a great improvement over the old style, flat-wick kerosene lamp. The first cost of the mantle lamp is considerably more than that of the old style lamp but the mantle lamp gives a better light, does not use so much air and produces practically no odor. The mantle lamp will give more than four times as much light as one of the ordinary tubular-wick type lamps on the same quantity of fuel. Folks who want a better light have the choice of four common systems: Acetylene lighting, blaugas lighting and electric lighting. Details concerning these lighting systems will be found in Circular 39 of the Agricultural Extension Service, College of Agriculture, Columbia, Mo.

Seneca Co., N. H., (C) Dec. 6.—Some potatoes were frosted in the field here. Sold on car on Nov. 10 at $1.50 per bushel; now selling out of store at 30 cents per peck. Buyers now paying 80 to 90 cents at car. Hay brings $20 to $22 at car and buyers taking everything in sight. Oats a short crop, bringing 65 cents from machine. Wheat brings $2.05, $2.08 and $2.10 at mill and car. Corn is said to be 60 cents in car. Some good yields. Silage was a good crop. Some fall plowing done.—All local shops are running on full time.—G. D. Stevenson.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If there is any question puzzling you about the size truck you require, put it up to our engineering department. They will give you expert advice free of charge.

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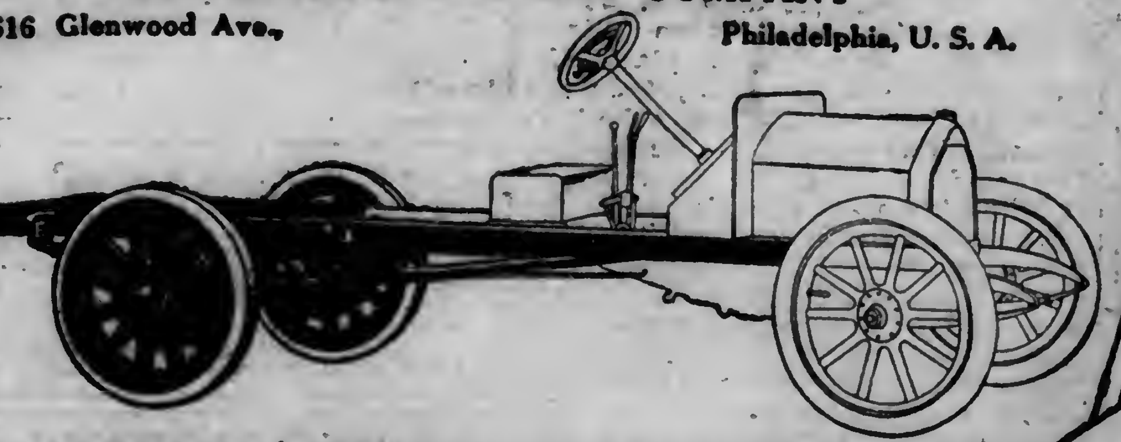

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Commercial Car Unit Company
1616 Glenwood Ave., Philadelphia

I should like to know how I can save money and time on my hauling. Send the free Truxtun book.

Name ....

P.O. ....

R.F.D. or Street No. .... State ....

WERTHAN PAYS HIGHEST PRICES FOR EMPTY BAGS

CASH FOR EMPTY BAGS

We pay highest prices and also freight charges. Be sure to get our prices before disposing of your bags. They're worth money to you and we'll pay you best cash price for them as soon as received and assorted. Write us at once stating how many you have.

WERTHAN BAG COMPANY
62 Dock Street St. Louis, Mo.

SAWS ANY WOOD IN ANY POSITION ON ANY GROUND 4 in. to 5 ft. Through

1 Man With a Folding Sawing Machine Beats 2 MEN With a Cross-cut Saw

5 to 9 cords daily is the usual average for one man

RUNS EASY No Backache — weighs only 45 lbs. — EASILY CARRIED — SAWS DOWN TREES

Our 1918 Model Machine saws faster, runs easier and will last longer than ever. Adjusted in a minute to suit a 12-year-old boy or strongest man. Ask for catalog No. M106 and low price. First order gets agency.

Folding Sawing Mach. Co., 161 W. Harrison St., Chicago, Ill.

Maple Syrup Makers

You Get Best Results with our

Champion Evaporator

Quick work, fuel saving, durability and BEST QUALITY OF SYRUP.

Write us for CATALOGUE.

Tell number of trees you tap

Champion Evaporator Company, Makers, Hudson, Ohio.

PEERLESS Fodder Shredder

If you have 3 H. P. engine you can run this 14 inch machine successfully. Will pay for itself in one year's use. Will not pulverize blades and tops. Sold on 30 days free trial. Write for price and catalog.

A. M. Dellinger, Lancaster, Pa.

HIGHEST PRICES paid for all kinds of RAW FURS

I need large quantities of all kinds of furs, and it will pay you to get my price list. I especially solicit furs from all northern and central sections. Write for price list and shipping tags today to

O. L. SLENKER
P.O. Box J-2, East Liberty, O

RAW FURS

TRAUGOTT SCHMIDT & SONS

INSECTICIDE SUPPLY

By order of President Wilson the insecticide business of the country has been placed under the supervision of the Food Administration. It is planned to bring about cooperation between the state potato growers' association and the makers of insecticides and provide for local maintenance of supplies for the use of these and similar organizations. Plans are being made to have available a sufficient supply of white arsenic. It is also hoped that the price of all arsenicals may be stabalized by such control.

PREMIUMS FOR THE LARGEST EARS OF CORN

The Delaware Corn Growers' Association, which holds its 11th Annual State Corn Show in Middletown, Delaware, January 2-4, 1918, will have one class open to the world. For the ten ears of corn shelling the most grain by weight, is offered five dollars in gold; 2nd, three dollars; 3rd, two dollars. A moisture test will be made of each sample to determine the exact dry weight.

All entries must be received by A. E. Grantham, Secretary, Middletown, Delaware, on or before January 2nd, 1918. No entry fee is charged for non-residents.

MORE SHEEP—MORE WOOL ASSOCIATION

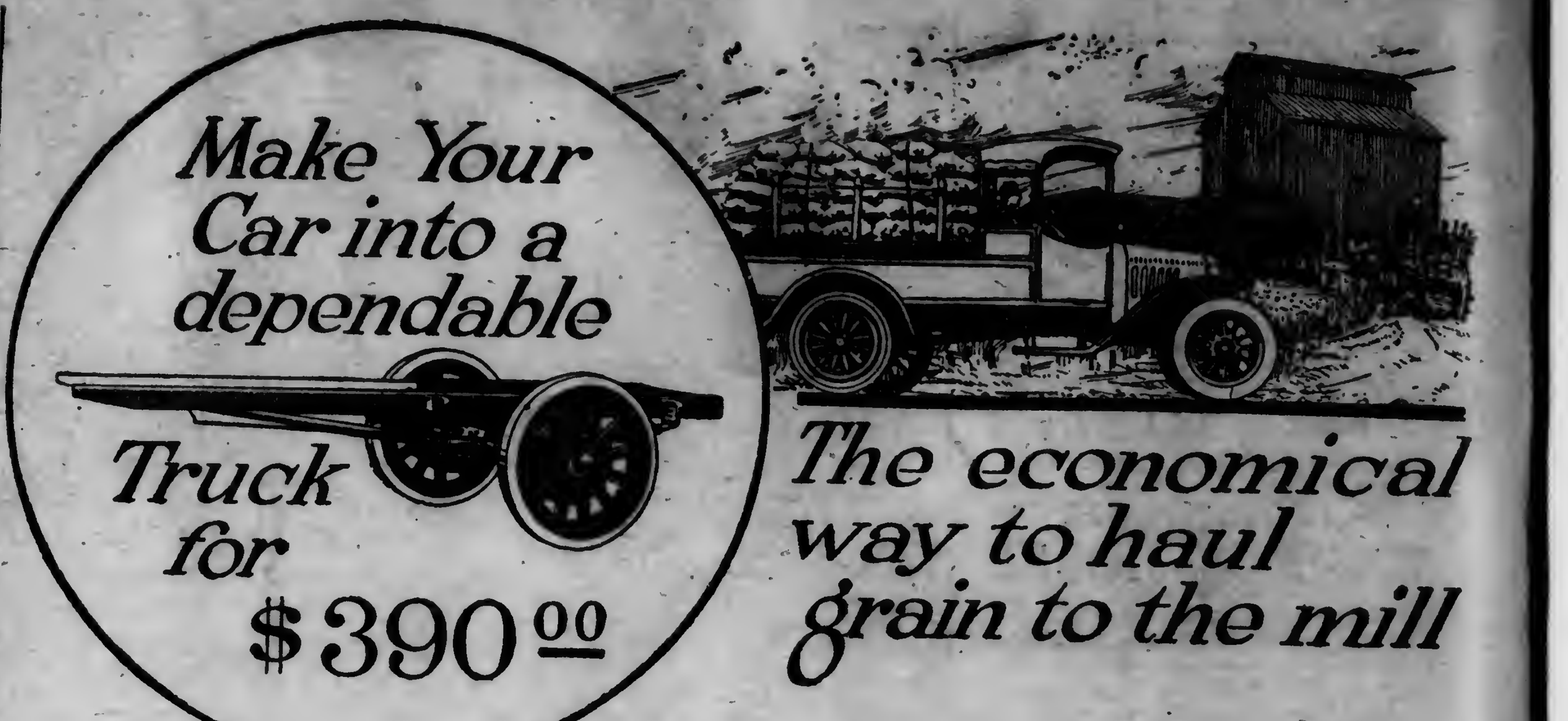
The More Sheep—More Wool Association has been completely organized and will take over and continue the work for the encouragement of the sheep industry inaugurated by the Philadelphia Wool and Textile Association. It is the purpose of the More Sheep—More Wool Association of the United States to encourage in all legitimate ways the development of sheep husbandry and obtain cooperation for this purpose to the widest extent possible. Mr. A. C. Bigelow, who has previously conducted the campaign, has been elected president of the new Association and will continue to direct its activities. The new association will maintain headquarters at 53 S. Front St., Philadelphia, Pa.

SCANT MEAT DIET IN GERMANY

According to figures secured from reliable sources by the U. S. Food Administration, the average consumption of meat by the civil population in Germany is one-half pound per week per person, distributed thru a rigid system of food cards. Other staple food products are likewise restricted.

Improve Farm Lighting System.—Lighting systems have been developed which are as greatly superior to the kerosene lamp as the kerosene lamp was to the tallow candle. For persons who can not afford a more expensive light, the kerosene mantle lamp is a great improvement over the old style, flat-wick kerosene lamp. The first cost of the mantle lamp is considerably more than that of the old style lamp but the mantle lamp gives a better light, does not use so much air and produces practically no odor. The mantle lamp will give more than four times as much light as one of the ordinary tubular-wick type lamps on the same quantity of fuel. Folks who want a better light have the choice of four common systems: Acetylene lighting, blaugas lighting and electric lighting. Details concerning these lighting systems will be found in Circular 39 of the Agricultural Extension Service, College of Agriculture, Columbia, Mo.

Seneca Co., N. H., (C) Dec. 6.—Some potatoes were frosted in the field here. Sold on car on Nov. 10 at $1.50 per bushel; now selling out of store at 30 cents per peck. Buyers now paying 80 to 90 cents at car. Hay brings $20 to $22 at car and buyers taking everything in sight. Oats a short crop, bringing 65 cents from machine. Wheat brings $2.05, $2.08 and $2.10 at mill and car. Corn is said to be 60 cents in ear. Some good yields. Silage was a good crop. Some fall plowing done. All local shops are running on full time.—G. D. Stevenson.


Make Your Car into a dependable Truck for $390.00
The economical way to haul grain to the mill

FEED never was so valuable, wages never so high, time never so precious. Think of the general saving and efficiency of doing your road-hauling with a good, sturdy, **shaft-driven** motor truck—made with a TRUXTUN Unit and a Ford or other pleasure car!

It will never tire, never get sick and it **won't "eat its head off" when not working.**

TRUXTUN

The Delivery Unit Every Farmer Can Afford

1-Ton Capacity, $390—2-Ton Capacity, $490

A TRUXTUN will not only **save** for you, it will make it possible for you to haul fifty or sixty miles a day.

It will enable you to help win the war.

To keep things moving on schedule is a vital national problem. The railroads already are over-strained. Every ton hauled by truck leaves room for a ton of munitions.

The TRUXTUN is the original unit for converting **pleasure cars into profit cars.**

It gives you high-grade truck value at the lowest possible initial cost, and the lowest cost for operation and up-keep.

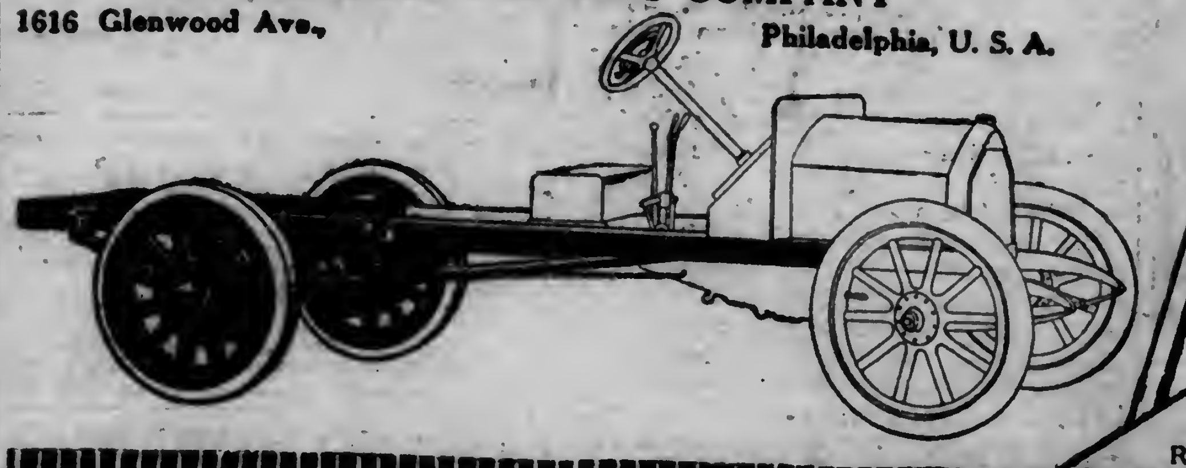
The TRUXTUN represents real quality in both design and material. It is **shaft-driven, with internal gear, axle-drive**—as used by the very **highest-priced** trucks.

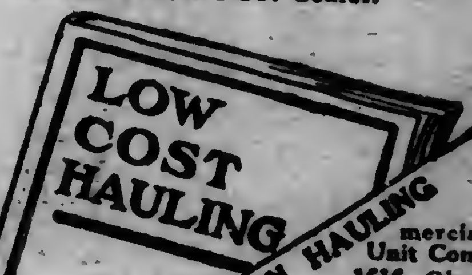
If there is any question puzzling you about the size truck you require, put it up to our engineering department. They will give you expert advice free of charge.

SEND FOR FREE BOOK

Write now for our book "Low Cost Hauling on the Farm," and name of nearest TRUXTUN dealer.

COMMERCIAL CAR UNIT COMPANY
1616 Glenwood Ave., Philadelphia, U. S. A.





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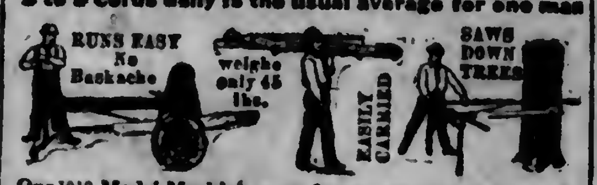

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Highest Prices Paid for
RAW FURS
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TRAUGOTT SCHMIDT & SONS
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End of Volume

End of
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ON
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END OF REEL
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